AUSTRALIAN RADIO AMATEUR CALL BOOK

PRICE 4/6

1954 EDITION

ANNOUNCING . . . .

THE AUSTRALIAN RADIO AMATEUR CALL BOOK

● An up-to-date Listing of Station Call Signs and Addresses of Licensees of Amateur Transmitting Stations located in the Commonwealth of Australia and its Mandated Territories.

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MARCH
1954

Amateur Radio

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INSTITUTE OF
AUSTRALIA

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and Radio Enthusiast

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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0330 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

Published by the Wireless Institute of Australia.
Law Court Chambers, 191 Queen Street,
Melbourne, C.1.

EDITORIAL

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PROGRESS

Back in October, 1945—nearly nine years ago—the Editorial commenced like this: **"Proudly do we, the Magazine Committee, present the first printed issue of 'Amateur Radio' since January, 1941."**

That was a great month in the history of the W.I.A., and those who worked so hard to bring to fruition the first post-war printed issue of our magazine were justly proud of themselves, because progress had been made after cessation of a world war that could easily have spelled doom to the Institute. A small committee of men had been working for four and a half years producing a duplicated magazine before this, and only those few knew the difficulties and obstacles that had been overcome in presenting to W.I.A. members the first printed **"Amateur Radio"** since before the war when it was a somewhat poorly printed octavo size publication.

Some of the members of that original committee are still actively engaged behind the scenes producing your magazine which has continued to improve in quality and compilation since those early days—even if limited circulation and lack of advertising support has precluded the possibility of including more pages for the time being. Others have joined the ranks of this silent band of workers who month after month work long into the late hours of many nights to maintain and improve the official organ of the Institute.

And now in 1954 another milestone is reached when, for the first time in its history, the Wireless Institute of Australia is to print another publication as a subsidiary publication to "Amateur Radio"—the **"Australian Radio Amateur Call Book,"** the cover of which you see printed opposite in color as it will be in reality.

The production of this book concludes more than two years of time-consuming work on the part of members of the Federal Executive, the Magazine Committee, and the Advertising Representative — work and time that has gladly been given to preserve for the Australian Amateur a service that he is entitled to have.

The Institute owns the copyrights for a period of five years, and with the support of Amateurs, both in Australia and overseas and the unselfish support of advertisers, it will ensure that this very necessary Amateur facility continues. By owning a copy yourself and sending copies away to your overseas friends from time to time, the future of the publication will be an undoubted success.

The Federal Council of the Institute has unanimously agreed to the Victorian Division accepting the responsibilities of producing the **Call Book**, so the same committee of unselfish men are shouldering the added burden on their time and energy as willingly as they did back in 1945 and before. They deserve the unlimited thanks of every Amateur in the Commonwealth.

FEDERAL EXECUTIVE.

THE CONTENTS

A One Metre Superheterodyne

Conversion of the ASB4 Receiver

BY R. G. PORTER,* VK5PU

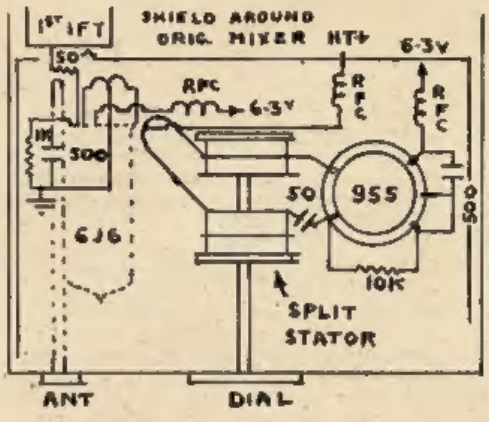
The ASB4 receiver has a broad-band mixer using a 955 mixer and 955 oscillator tuned inductively by means of a heavy copper disc to give a frequency range of 400-600 Mc. with a 55 Mc. output to the i.f's. Three stages of i.f. amplification using 6AC7s feed into the second mixer, a 6AC7 with a 6J5 oscillator on 44 Mc., giving an output of 11 Mc. to two stages of i.f. amplification (6AC7s again). A 6H6 detector, 6AC7 video amplifier and 6AG7 cathode follower output tube completes the line up. The i.f. channel is 3 Mc. wide and the receiver as it stands is a very noisy insensitive and unselective one. The signal strength from a 576 Mc. transmitter fed directly to the 955 mixer is something like S6!

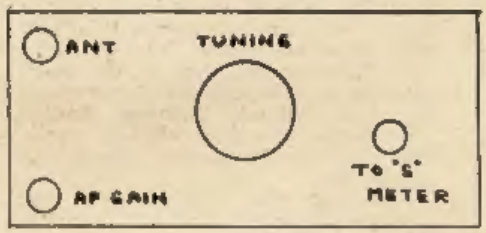
The reason for this very poor performance is principally due to the i.f. stages, which are R/C coupled, the 55 Mc. i.f. plate resistors are 5,000 ohms and the 11 Mc. i.f. plate resistors, 2,000 ohms. The last stage before the 6H6 detector feeds into a load of 1,000 ohms! At first glance it would appear that all that is required to "hot up" the i.f. stages is to increase the values of these resistors. However, the snag is that an increase in value of the plate loading resistor will reduce the plate voltage and reduce the gain of each stage.

The cure is found in making the slug-tuned resonant circuit the plate load instead of the grid input, and swapping the resistance into the grid return to earth. Here, quarter megohm resistors can be used for the first three i.f. stages and still leave the channel sufficiently broad.

* 27 Leslie Street, Woodville, South Australia.

In the 11 Mc. channel, the use of 35,000 ohms was found to give the best compromise between selectivity and gain, without excessive clipping of the signals from modulated oscillators. Higher values give improved performance with xtal controlled transmissions, but make mod. osc. signals unpleasant to copy.





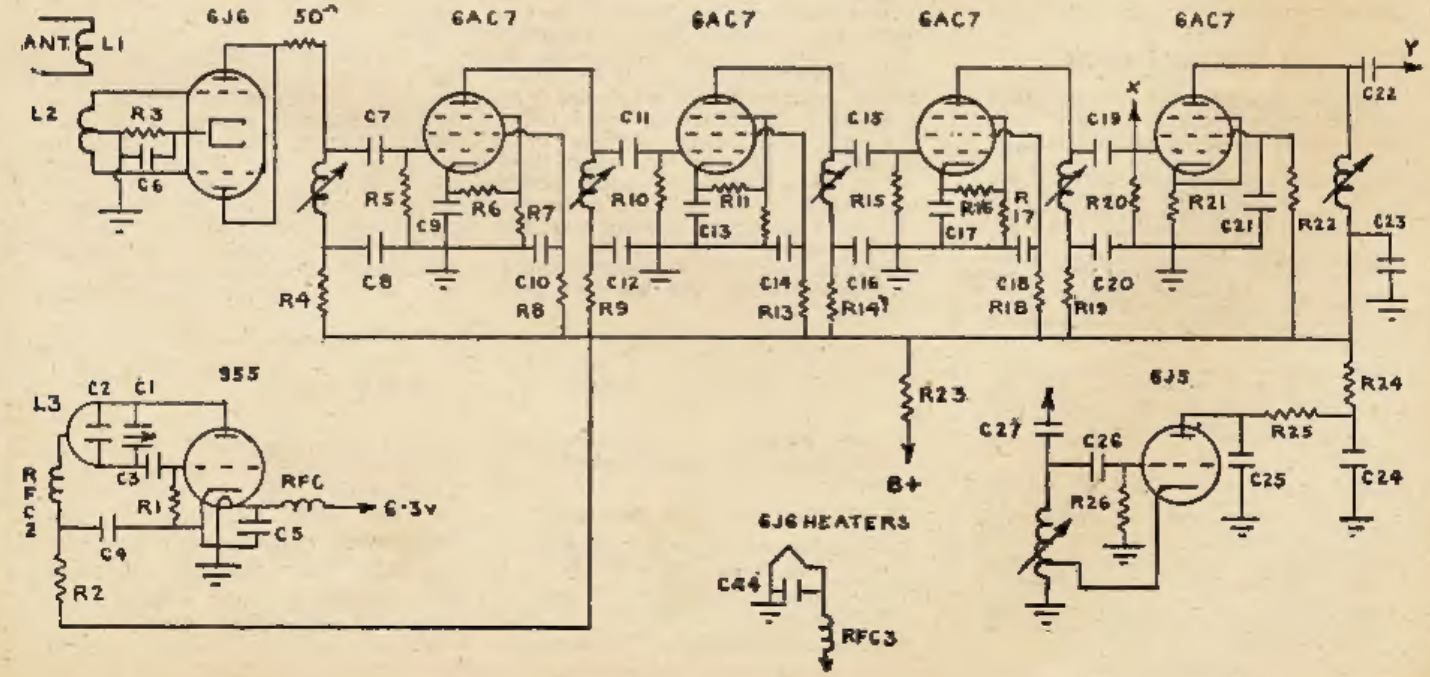
In the last i.f. stage, which feeds the 6H6 diode, the winding is left in the diode circuit and the 6AC7 plate loading resistor is increased to 35,000 ohms. When the winding was placed in the plate load of the 6AC7, the author found the quality to be very poor. The 6H6 detector circuit is not conventional, since it was found that for efficient detection it was necessary to earth one side of the last slug-tuned i.f. winding.

The circuit of the last two tubes, designed originally for video amplification, does not perform well and needs a complete re-wire as a conventional triode-pentode audio amplifier. The 6AC7 and 6AG7 are wasted as audio tubes and any small tubes on hand could be used. They must fit in the case!

With these modifications, the receiver could be used on 576 Mc. without altering the tuning arrangements. But it is awkward and does not give very good conversion. So for 288 Mc. the front end has to be completely removed and a broad-band mixer using a 6J6 in a push-push circuit which has been proved by many others, inserted. The oscillator uses a 955, tuning over a frequency range of 230-245 Mc. Note the new layout in accompanying sketch.

The oscillator injection is accomplished by bending the oscillator tuned line over into close proximity to the mixer coil (similar arrangement to the SCR522). Best results were obtained with the antenna coupled closely to one side of the grid coil and the oscillator coupled closely to the other side.

The 6J6 mixer section is built up and completed on a small bracket and the whole sub-assembly then bolted on to



the main chassis. The oscillator socket is mounted on the original ceramic stand-off insulators, but new holes are drilled so that the socket is turned at right angles to allow short leads to the tuning condenser and lines.

Alignment of the i.f. stages is easily performed by using noise from the mixer. With the audio gain about half on, there will be quite a healthy hiss in the speaker and the slugs can be adjusted for maximum noise level. Start at the 55 Mc. stages; screw the slugs right in and then bring them out about six turns each. Next, adjust the 6J5 oscillator coil (mounted between the 6J5 and the 6AC7 at the back of the chassis) until the noise peaks up, and then adjust the 11 Mc. slugs; re-adjust the 55 Mc. stages for maximum noise.

With the dimensions given, the 6J6 coil should peak in the centre of the band. An easy way of checking this, if there is a super-regen receiver handy, is to spread or compress the turns of the coil, when mounted on the sub-assembly with the 6J6 plugged in, to give correct capacity (not necessarily with heater alight) until the receiver is pulled out of oscillation—grid dip idea! —in the centre of the band. Hold the assembly just near enough to get a sharp drop-out (thanks Ray, 5BT).

To align and get the correct coverage for the oscillator, the 5 pF. across the tuning condenser can be tapped nearer to or further from the tube. Use the super-regen to ascertain the band limits, for it emits a healthy signal!

Once the band has been found, it may be necessary to change the 6J5 oscillator frequency and re-align the 11 Mc. channel. Remember the second oscillator will give harmonics which could fall into the band and cause interference with the real signals.

Refinements can be added. An outboard S meter can use the biasing voltage obtained from the second diode of the 6H6 detector (see circuit). Its usefulness includes beam pattern measurements and, of course, can give an accurate assessment of improvement at other stations which are not noticeable on the "rush-box."

Unfortunately with so many tubes and two stages of conversion, there is a high hiss level, but to a lesser degree than the super-regen. The weaker signal is free of hiss on the ABS4 and whereas the super-regen radiates a strong signal on the 1 metre band, the oscillator for the ASB4 is outside the band and any radiation which should be small with the mixer circuit layout won't interfere with other 1 metre signals.

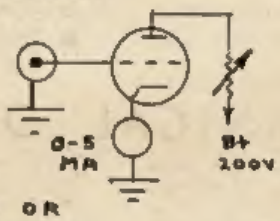
Antenna coupling is not critical and there is no noticeable QSB from swinging feeders. The main drawback, from a duplex man's point of view, is the fact that numerous beats between the two oscillators in the receiver and the transmitter produce a situation which makes duplex almost impossible. However this disadvantage is heavily outweighed by improved receiver performance.

In the interest of the lowest possible noise keep the h.t. voltage as low as possible; 150 volts (at 60 Ma.) gives about the best performance.

The author will be glad to answer any queries.

COIL DATA FOR 28 Mc.

L1—2 turns 20 s.w.g. on ¼" diameter.
L2—4 turns 20 s.w.g. on ¼" diameter tapped at its centre.
L3—Loop 2½" long spaced ¼", 12 gauge.
RFC1, 2, and 3—30 turns 26 s.w.g. on ¼" diameter.



Adjust R47 until cathode current, with no signal, is 5 Ma. Use a 6J5 or similar tube.

"Radio Ham Can Help Save Life"

Tribute to the work done by Mackay Radio Ham, Mr. Harry Dearness, during the rescue of the crew of a ketch from a reef 68 miles off the coast was paid by Police Chief Inspector J. F. Buggy.

"This is the second time since I have been here that he has rendered such valuable assistance," Inspector Buggy said.

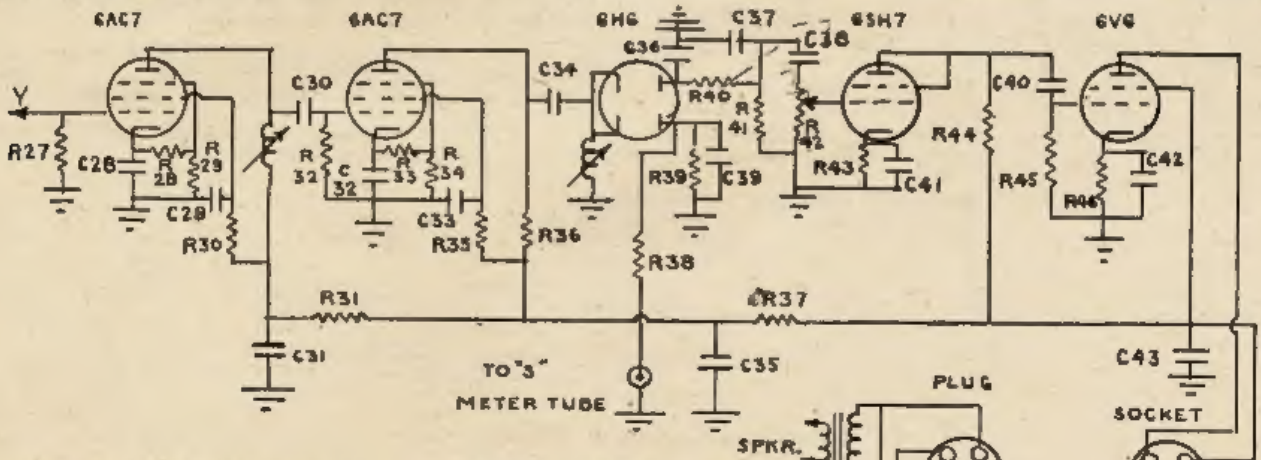
(During the rescue of the owner and passengers of the Quest IV., Mr. Dearness was in constant contact with rescue launch Peekaye. He operated from his own Amateur Station VK4KW.)

Inspector Buggy said Mr. Dearness had been placed at his disposal by his employer, Mr. R. Boxall, during working hours.

His assistance had been very valuable and was appreciated by the Police.

Similar incidents to the running around of the Quest IV. were always likely to happen here. Assistance given by Radio Amateurs could be the means of saving a life, Inspector Buggy said.

—Extract from the "Daily Mercury," of Mackay, Queensland.



N.B.—Numbering of components is not the same as that of the photostat in the top of the box.
C1—4 pF. per section split stator.
C2, C27—5 pF. ceramic.
C3, C26—50 pF. mica.
C4, 5, 6, 8, 9, 10, 12, 13, 14, 16, 17, 18, 20, 21, 23, 24, 25, 28, 29, 31, 32, 33, 35, 39—500 pF.
C7, 11, 15, 19, 22, 30, 34—300 pF.
C36, C37—100 pF.
C38, C40—0.1 uF.
C41, C42—25 uF. 40 volt electrolytic.
C43—8 uF. 525 volt electrolytic.
R1, R2, R25—10,000 ohms.
R3—500 ohms.
R4, 8, 13, 18, 22, 26, 30, 35, 40—50,000 ohms.
R5, 10, 15, 20, 41—0.25 meg.
R6, 11, 16, 28, 33—15 ohms.
R7, 9, 12, 14, 17, 19, 23, 29, 31, 34, 37—100 ohms.
R21—2,200 ohms.
R24—200 ohms.
R27, R32, R36—35,000 ohms.
R38, R45—0.5 meg.
R39—2 meg.
R42—0.5 meg potentiometer.
R43—5,000 ohms.
R44—0.1 meg.
R46—350 ohms.
R47—Approximately 30,000 ohms.

MODEL "1XA" CRYSTAL MICROPHONE INSERT

AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS

FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- **Patented crystal unit guarantees outstanding efficiency and performance.**
- **Protected against ingress of moisture with approved moisture sealed crystal element.**
- **Small — compact — lightweight — durable.**
- **Will not blast from close speaking.**
- **Precision engineering ensures realistic reproduction and high output with long life and dependable operation.**
- **The only unit available with a genuine sintered metal filter.**
- **Good high frequency response ensures excellent speech reproduction.**
- **Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.**
- **Australian made throughout.**
- **Only carefully selected cements used throughout, to suit Australian climatic conditions.**

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

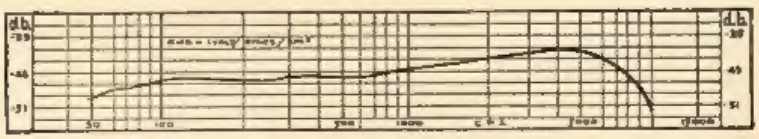
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case 1½" diameter (rear), ⅜" thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
Output Level = —45 db (0 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

AVAILABLE FROM ALL LEADING TRADE HOUSES

ZEPHYR PRODUCTS PTY. LTD. 118 WATTLETREE RD., ARMADALE, VICTORIA

A TREATISE ON PRACTICAL MODERN RECORDING TAPE

PART TWO

BY G. W. STEANE

The most popular types of coating material presently employed are the black (Fe_3O_4) and the red (Fe_2O_3) gamma iron oxide. The Germans synthetically manufactured these oxides by the reaction of ferrous sulphate, ammonia, and ammonium nitrate, which produced a very finely divided black magnetic iron oxide, which was subsequently crystallised out of solution.

The black oxide was then further oxidised at 230°C. for six hours in a specially constructed agitating dryer utilising air pressure to produce the red ferric oxide having a crystallic structure. Each of the minute crystals is subsequently separated according to size. Only those measuring one micron or less are used.

Extreme care must be exercised in the manufacture of this material. Particle size must be reasonably uniform. When wide variations in particle size occur, it is impossible to produce a final smooth coating. Irregular coatings contribute to variations in amplitude, irregular high frequency response, and noise, which ultimately limit the dynamic range of the entire recording system. The importance of maintaining particle sizes of under one micron can best be understood by a casual review of the dimensions involved in magnetic recording.

For ideal recording resolution, the magnetic particle size should be at least 15 times smaller, which indicates a particle size of approximately 1,/40,000th inch (or one micron). Smaller particle sizes will, of course, do no harm.

In fact, the smaller the particle, the easier it is to obtain proper dispersion during application. Obviously, the more uniform the particles are in size, the smoother will be the final coating. A smooth coating assures negligible variations in distance between the magnetised particles and the pick-up head. Significant variations in this distance will increase the amplitude variations at high frequencies.

The nature of the binder is obviously important. It is desirable to utilise a binder which will keep the magnetic particles permanently fastened to the paper or plastic base.

The most commonly used binders are polymeric vinyl chloride compounds and cellulose acetate or nitrates. The binder represents between 60% and 75% of the magnetic coating.

Some of the other more important characteristics to consider in comparing both types of bases are dimensional stability, compliance, tensile strength, tearability, and cost.

The effects of humidity and tension upon the dimensional stability of paper bases are easily laboratory checked. It has been found that treated paper base tape will elongate approximately 0.1% when subjected to the usual tension encountered in recording machines for a period of three days at a relative humidity of 100%. Plastic tape elongates approximately 0.2% under similar conditions. These differences are characteristic of the superior dimensional stability of paper over plastic base tape.

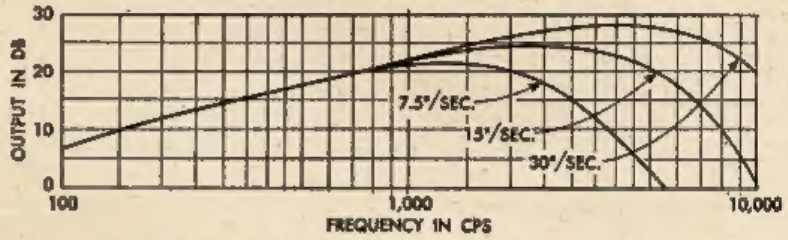


Fig. 2.—Showing how tape speed affects frequency response and output.

HEADS AND RESPONSE

Some good English tape recorder heads, viz.: Fradmatic, have two magnetic gaps, one acting as a back gap to the other and things are so arranged that if any wear takes place after a long period, the head can be turned around 180° to make use of the alternate gap. The same heads use mu-metal laminations of only 10 mil. section and have an impedance of 2,600 ohms and are of the twin-track type.

Head alignment is, of course, essential in tape heads, especially if one's tape recorder is expected to play tape recorded on another machine. Some machines actually have a means for azimuth adjustment to ensure that the gap has no deviation from a right angle between the slit and direction of tape travelling will manifest itself as a serious loss on the high frequencies. See Fig. 1.

The English tape heads referred to have an ingenious mounting method whereby the heads could be rocked a few degrees before they are locked into the exact position.

A year or two ago a frequency response from a tape recorder of 1,000 cycles per inch per second of the speed of the tape was considered a standard without any thought of the type of tape or the gap size of the head, but now research has shown us that the frequency response is inversely proportional to the slit width or gap of the reproducing head, whereas the recording head is not so critical in this respect. Thus while a 0.00025 to 0.0005 inch slit is used in a good reproducing head, the recording head may have a 0.001 inch slit. This relationship is shown graphically in Fig. 1a.

For an idealised system, the gap length of the playback head should not be greater than one-half the wavelength of the highest recorded frequency. In a practical system, utilising

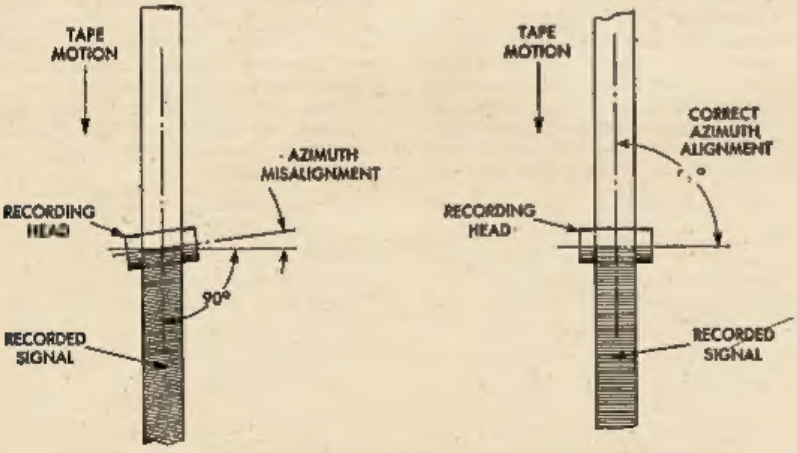


Fig. 1.—Showing effect of misalignment of recording head.

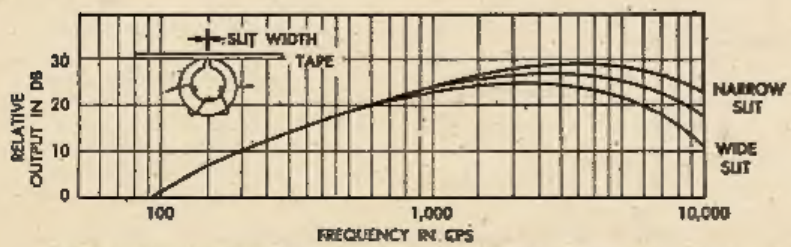


Fig. 1A.—Showing how head gap affects frequency response and output.

a tape speed of 7½ inches per second, the wavelength of a 10,000 cycle signal is 0.00075. Practical gap lengths of 3/10,000 are therefore employed in playback systems where 10,000 cycle reproduction is desired.

At frequencies where the slit width approaches and exceeds one recorded wavelength in size, the frequency response is impaired. Faulty contact between pole pieces and tape has an equally bad effect. Even as little as 0.001 inch space between a pole and the tape will have a major effect. For this reason, a lacquer coating over the magnetic medium (lying between it and the poles) is out of the question.

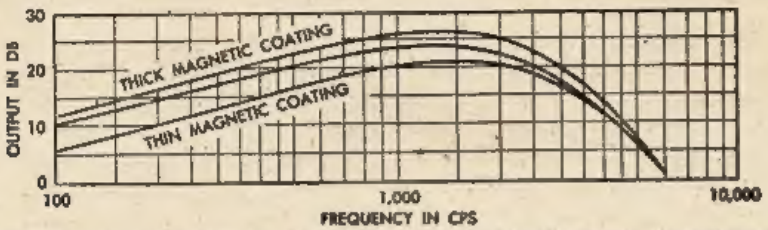


Fig. 3—Showing how thickness of ferric-oxide coating affects response (unequalised).

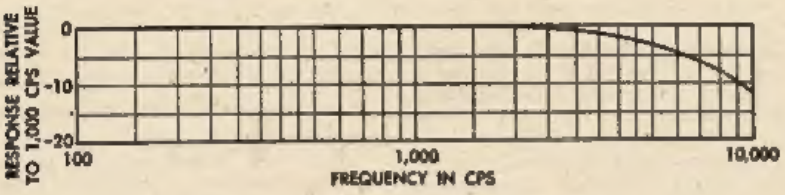


Fig. 4.—Showing loss of high frequency response when bias is increased from 4 Ma. (optimum) to 10 Ma.

An overloaded recording head will have the tips of the poles saturated. This increases the effective slit width and impairs the frequency response, as well as causing distortion.

Response is affected by tape speed, particularly at the higher frequencies, as shown in Fig. 2. The effect of increasing tape speed is to increase the frequency of maximum response. The shift is directly proportional to speed, hence the frequency of peak response will be doubled when the tape speed is correspondingly changed.

Irregular as they appear, these curves are levelled out into the sort of thing the engineer wishes to see by the application of simple equalisers, providing high frequency boost in recording and low frequency boost in reproduction. It is not desirable to use too much high frequency boost in recording, otherwise high frequency overload is likely to occur. Holmes has advised against a boost of over 15 db.

The effect of coating thickness on frequency response may be more readily appreciated if we use curves based on the response of an equalised system. For an unequalised system, the effect of changing the coating thickness is shown in Fig. 3.

It has been found that excessive bias will tend to exert a partial erasing effect on the higher frequencies, so that the frequency response is impaired. This is illustrated graphically in Fig. 4.

Extremely small signals are picked off the tape (approximately 1 millivolt at 1,000 cycles and approximately 50 microvolts at 50 cycles) in a non-pre-equalised recording system. This exceptionally low voltage necessitates extreme precaution in the design of the input stages of the playback amplifier. Ordinary preamplifiers are characterised by sufficient inherent noise to become the basic limitation in the dynamic range of the entire system.

DISTORTION AND NOISE

Bias current has a profound effect on the distortion produced by a tape. Professional recording machines often have a bias adjustment, and it is possible to set this properly or improperly. Amateur recording machines generally have a non-adjustable bias, and it is highly desirable that the tape used on such a machine works well at the bias the machine normally provides.

If we apply a fixed input and vary the bias, we may secure a family of curves like those in Fig. 5.

Some professional machine manufacturers are advising that the bias be set by applying a tone of moderate frequency, at a level about 10 db below the overload point, and adjusting the bias for maximum output. This might be done by the use of 1,000 c.p.s. with tape running at 15 inches per second. Others advise that the bias be increased beyond this value, enough to reduce the output by either 1 or 2 db. These rules lead to incompatible results if used in comparing paper and plastic base material, but no definitive study of the bias problem has yet been made, so we leave the question unsolved.

Experiment seems to indicate little shift of optimum bias with tape speed, so in a two-speed machine, it is satisfactory to set the bias at the optimum value for the lower speed. At the higher speed the bias will still be close to optimum.

In some poorly designed recorders we find conditions which make it difficult to make reliable distortion measurements: The bias current changes considerably as the machine warms up, and there is also considerable variation of bias from one machine to another. Some of the older home-type machines may get hot enough to melt plastic tape if run continuously, so it may be desirable to add a ventilating fan or blower.

The character of the bias can also affect the distortion. It has been found that second harmonic distortion or any assymetry of the bias waveform will cause second harmonic distortion in the recording and an increase in noise. The machine designer should pay especial attention to bias waveform, for not all machines are equally good in this respect.

It is possible to get audible beats between the bias frequency and harmonics of the audio tone, making it desirable to have the bias frequency at least five times the frequency of the highest audio tone to be reproduced. Thus the bias frequency of most home-type machines is of the order of 25 to 30 Kc., while that of most professional machines is between 80 and 100 Kc.

Harmonic distortion sets the reference level used for signal-to-noise ratio data. A reference level corresponding to 1% or 2% harmonic distortion has often been utilised. Under this condition, professional recording machines in the field have shown a signal-to-noise ratio of the order of 45 to 65 db. Response of such machines has been uniform to 15 Kc. or beyond with a tape speed of 15 inches per second.

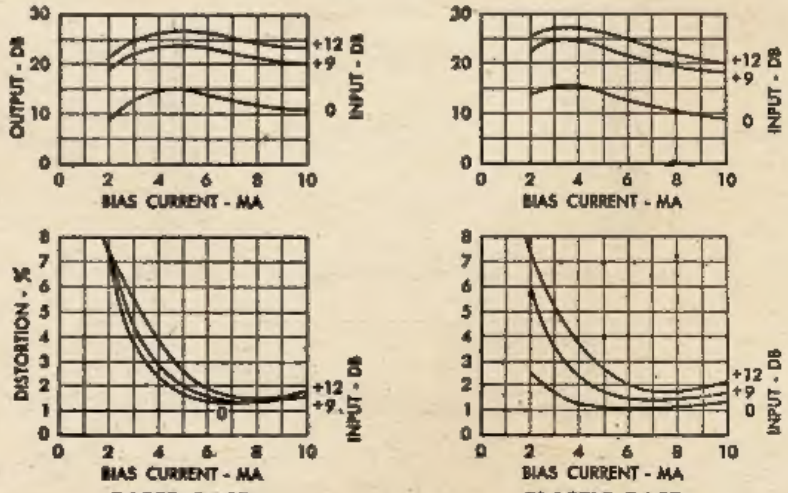


Fig. 5.—Effect of changing bias current on output and distortion with various values of input on tape.

Recently, manufacturers have found that improved heads lead to a great increase of usable frequency range. Thus, home machines using tape at 3.75 inches per second may have good response up to 6 or 7 Kc., and professional machines running tape at 7.5 inches per second may have uniform response up to 10 or 15 Kc. Machines of this type are relatively new, and not yet a major part of the field; they are all characterised by the improved quality of the reproducing head. The physical modification of the head is almost imperceptible—reducing the slit width by several ten-thousandths of an inch—yet it is enough to double the available frequency range for a given tape speed.

Excessive recording level leads to unpleasant distortion, hanging about the signal in a veritable curtain. It also leads to a volume compression effect which removes the accent, the artistic touch. This may change the apparent frequency response of the recorder. Thus, a drum beating away in the middle of an orchestra may overload the tape and lose most of the energy of its highly transient sounds. On reproduction, the relative loudness of the drum may be so diminished that it sounds as though removed to the back of the studio.

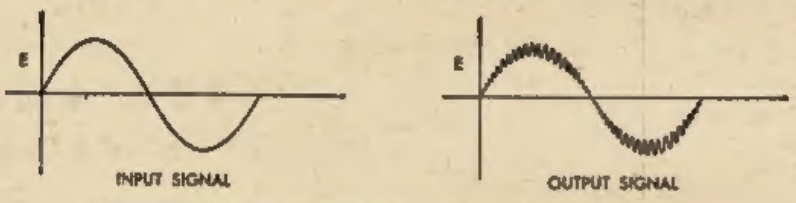


Fig. 6.—Showing how modulation noise appears on signal.

It is, therefore, quite undesirable to use the level corresponding to 1 or 2% harmonic distortion as the nominal recording level, i.e. as the meter indicated value. Because of the slowness of the pointer action, transients encountered may have an intensity of 10 to 15 db greater than that actually read on the volume indicator meter, and overload will surely ensue. The most critical recording organisations, therefore, set their nominal recording level 10 db below the 1 or 2% level. This means that the actual signal-to-noise ratio, according to standard practice, is 10 db poorer than the machine manufacturers' catalogue value. Some organisations are less concerned with distortion and more concerned with signal-to-noise ratio. They set their nominal recording level 5 or 6 db below the 1 or 2% point, which leads to an audible fringe of distortion on every long sustained peak.

MODULATION NOISE

The noise previously referred to is the conventional type of noise, audible when there is no signal. Tape has an additional type of noise which is called modulation noise, Barkhausen noise, or "behind-signal" noise, present only when signal is present.

It will be recalled that a previous paragraph stated that magnetised tape was noisier than unmagnetised. Because of this, there is an increase of noise when a signal is applied to the tape. Careful inspection on a cathode ray oscilloscope reveals that this noise fluctuates with the signal—in fact is modulated by it (whence the name "modulation noise"). Modulation noise has been blamed on many factors, with non-uniformity of magnetic properties, non-uniformity of thickness, and Barkhausen effect, being the most popular. It is a very complex phenomenon, and the "poor dispersion" cited in a subsequent paragraph is only one of many governing factors. This effect is illustrated in Fig. 6, which shows graphs of the input voltage to and output voltage from a tape.

In making an oscillograph test of this sort, it is necessary to use a filter to remove all traces of recorded bias. In spite of its high frequency, some bias is recorded, and will be shown on the screen and confused with modulation noise unless it is removed with a suitable low pass filter.

Under certain conditions, modulation noise is audible to the listener, particularly on solo instrument or solo voice passages, as a fuzzy edge to the tone or as a hoarse background for it. The ear considers modulation noise as distortion. In view of its inharmonic character, it is particularly offensive. Some machines exhibit "modulation noise" much more strongly than others, and conceivably an overload condition may be mistaken for modulation noise.

When paper is coated, the top surface of the coating is very smooth, but the bottom surface (being in contact with the paper) is as rough as the paper surface. The resulting microscopic irregularity of coating thickness creates modulation noise—which is why a recording on paper base tape never sounds quite as clean as the same recording on plastic base tape. Nevertheless, the difference in sound is much less on better quality professional recording machines than on poorer ones—indicating that the difference is partly a function of the machine.

PERFORATED TAPE

As well as the ¼" plastic and paper tape now on the market, we understand that a Sydney wholesaler has small stocks of 8, 16, 17.5 and 35 mm. tape or film for application with standard and sub-standard film equipment.

The ferric-oxide emulsion is so efficient that it is used in preference to the straight optical sound track in professional recording or, to be exact, two "cameras" are used on the set, one the regular optical camera, and the other the magnetic sound camera, both operated from the same power switch ensuring that the magnetic sound recording is in synchronisation with the frames of the picture. The sound on the magnetic tape is then later electrically "dubbed" on to the film where a regular optical sound track is made.

All this has the advantage of economy and flexibility as the original magnetic film can be used thousands of times as it is only necessary to erase each recording after it has been used by placing the reel of film over a 50 cycle erase coil—a method which has now become universal instead of using an erase head which could be dangerous if it were accidently switched on during recording.

The fidelity of recording is better than the optical recording and there is no need to worry about the presence of light on the perforated tape or film as in the old optical method.

We understand that the sound on one of our regular weekly newsreels in Sydney is recorded by this process.

Many thousands of amateur film enthusiasts may be interested to know that a Sydney firm is now making arrangements to deposit a ferric-oxide track alongside the picture frames of 8, 9.5 and 16 mm. film, whether of the silent or sound type, which will enable the amateur to fit or purchase a magnetic sound head and record or playback his own sound so that it is lip-synchronised with the picture frames.

In the case of 16 mm. film, a frequency response of from 80 to 7,500 c.p.s. plus or minus one db is possible.

Imagine what a boon this would be to the enthusiasts, especially anyone who desires to turn silent films into talkie films.

We hope to give our readers more information on this at a later date and we understand that R.C.A., of America, have decided to give this subject worldwide publicity and standardise upon its use, which will be such a help in television films as well as in the home.

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6AC7	15/-
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2051	22/6
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6L7	12/6
807	25/-
813	60/-
830B	60/-
VR150/30	22/6
954	7/11
12A6	12/6

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

The above valves are only obtainable from Melbourne Branch.

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Two valve, inter-phone Amplifiers. Complete with filter, choke and output transformer.

£3/10/-

U.H.F. MIDGET HOMING RECEIVERS

Frequency range 234 to 258 Mc. Can be operated from either 12 or 24 volt internal changeover switch. Manually tuned dials. Calibrated in frequency.

£4/19/6

TRANSMITTER TUNING UNITS

Type TU10B
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Type TU26B
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Type TU6B
3000 to 4500 Kc., **£3/10/-**

SELENIUM RECTIFIERS

Copper oxide 12 volts 4 amp. Suitable for battery chargers.

45/-

GENEMOTORS

Type 72—Input: 27v. 3.6a., Output: 250v. 70 Ma., and 12.6v. 2.6a., **39/6.**

Type DA-3A—Input: 28v. 10.5a., Output: 300v. 260 Ma., 150v. 10 Ma., 14.5v. 5a., **29/6.**

Type 31—Input: 18v. 12a., Output: 7.2v. 13a., 225v. 110 Ma., **39/6.**

Any of these models can be converted without re-wiring to operate fractional h.p. motors on 240v. AC.

RADAR RECEIVER

American, Type CPR46AAT

Containing Valves:—

1—955	1—6AG7
3—956	1—83V
4—6AC7	1—2X2

and 24v. switching motor.

£6/19/6

SYNCHRONISER UNITS

Type 1155

Containing following Valves:

6—6SN7	1—6H6
3—6L7	2—6AC7
2—6AG7	6—717A
2—6L6	

Brand new, **£12/10/-**

A.W.A. TRANSMITTING CONDENSERS

25 pF. to 375 pF.

22/6

MODULATING UNIT

Type 169

Containing Klyston tube, three neon stabilisers, one EF50, two half-wave selenium rectifiers, one 5U4 rectifier, one CV85, potentiometers, gears, resistors, high voltage condensers and transformer.

£4/19/6

TRANSMITTER-RECEIVER

Type RT-34/APS-13

Frequency Modulated, approx. 450 Mc. Valve line-up:

9—6AG5
5—6J6
2—2D21
1—VR105

Also contains Dynamotor, input 27v. 1.5 amp., output 285v. 60 Ma. Price **£17/10/-**

COMMAND

RECEIVERS

Type BC453, 190 to 550 Kc., **£12/10/-.**

BC454, 3 to 6 Mc., **£7/10/-.**

BC455, 6 to 9.1 Mc., **£7/10/-.**

TRANSMITTERS

Type BC457, 4 to 5.3 Mc., **£7/10/-.**

BC458, 5.3 to 7 Mc., **£7/10/-.**

BC459, 7 to 9.1 Mc., **£7/10/-.**

BENDIX RADIO COMPASS

RECEIVERS, Type MN26H

12v. input. Frequency ranges 200 to 410 Kc., 550 to 1200 Kc., and 2.9 to 6 Mc. Complete with 12 valves and genemotor. Valve line-up:

2—6N7	1—6B8
1—6F8	1—6L7
2—6J5	5—6K7

£24/17/6

AT5/AR8

TRANSCEIVERS

AR8 RECEIVER

11 valve twin channel Receiver, using standard 6.3v. octal valves. Six bands. Complete coverage 140 Kc. to 20 Mc. Dial calibrated for all bands.

£23/17/6

AT5 TRANSMITTER

A high power unit using two 807s in final. Covering 140 Kc. to 20 Mc. with provision for six crystals and V.F.O.

£9/17/6

Junction Box and Cables, **£5.** Aerial Coupling Unit, **£3/10/-.**

TRANSMITTERS

Type TR3548

Containing Valves: 1 Rectifier VU111, 1 EF50, 1 10 Cm. Magnetron Valve complete with magnet, 1 Crystal Diode Type 1N21; and 1 24 volt Blower Motor. Brand new. Price **£5/19/6.**

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

SECTION TWO

Crystal Oscillator and Multipliers

Panel Size: 19" x 5 units
Chassis: 17" x 10" x 2" deep.

This section of the Basic Transmitter has been designed to act as a crystal oscillator and/or a multiband multiplier stage. The unit requires four valves of a type similar to the 6AG7.

First a brief description of the unit will be given. The first valve, V1, acts as either a Colpitts harmonic crystal oscillator on 80 metres giving output on 80 or doubling to 40 metres; or by shifting switches S1A and S1B, which are ganged, the crystal is cut out and the v.f.o. substituted, operating on the same basis of output.

The second valve, V2, is a doubler to 20, taking the output of V1 at 40. The third valve, V3, is a tripler taking the output of V1 at 40 (or 7 Mc.) and tripling to 15 metres (21 Mc.). The fourth valve, V4, picks up the output of V2 on 20 and doubles to 10 metres. Here in a nutshell are the contents of this unit.

* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

Describing the unit in detail, the panel has five controls—three switches and two peaking controls. A meter to read resonant dips is also included. The controls are as follows:—

S1A and B—Crystal and/or V.f.o.
S3—Meter Switch.
S2A, B, C, D, E, F, G, H—Band Switch.

The function of S1 is to change the unit from crystal to v.f.o. The action is such that when at the crystal position the 100K resistor in the grid circuit of V1 is earthed through the r.f.c. in the cathode lead and the crystal is put into circuit.

When the switch is moved to v.f.o. position, the 100K resistor is earthed by shorting out the r.f.c., the crystal circuit is opened, and the valve V1 acts as a buffer on 80 or a doubler on 40 metres.

The function of S3 is obvious. It is a five-position two-pole wafer switch which when switched to the appropriate position will read the resonant dip in plate current.

S2 assumes by far the most important function. By it is controlled the band upon which it is desired to work.

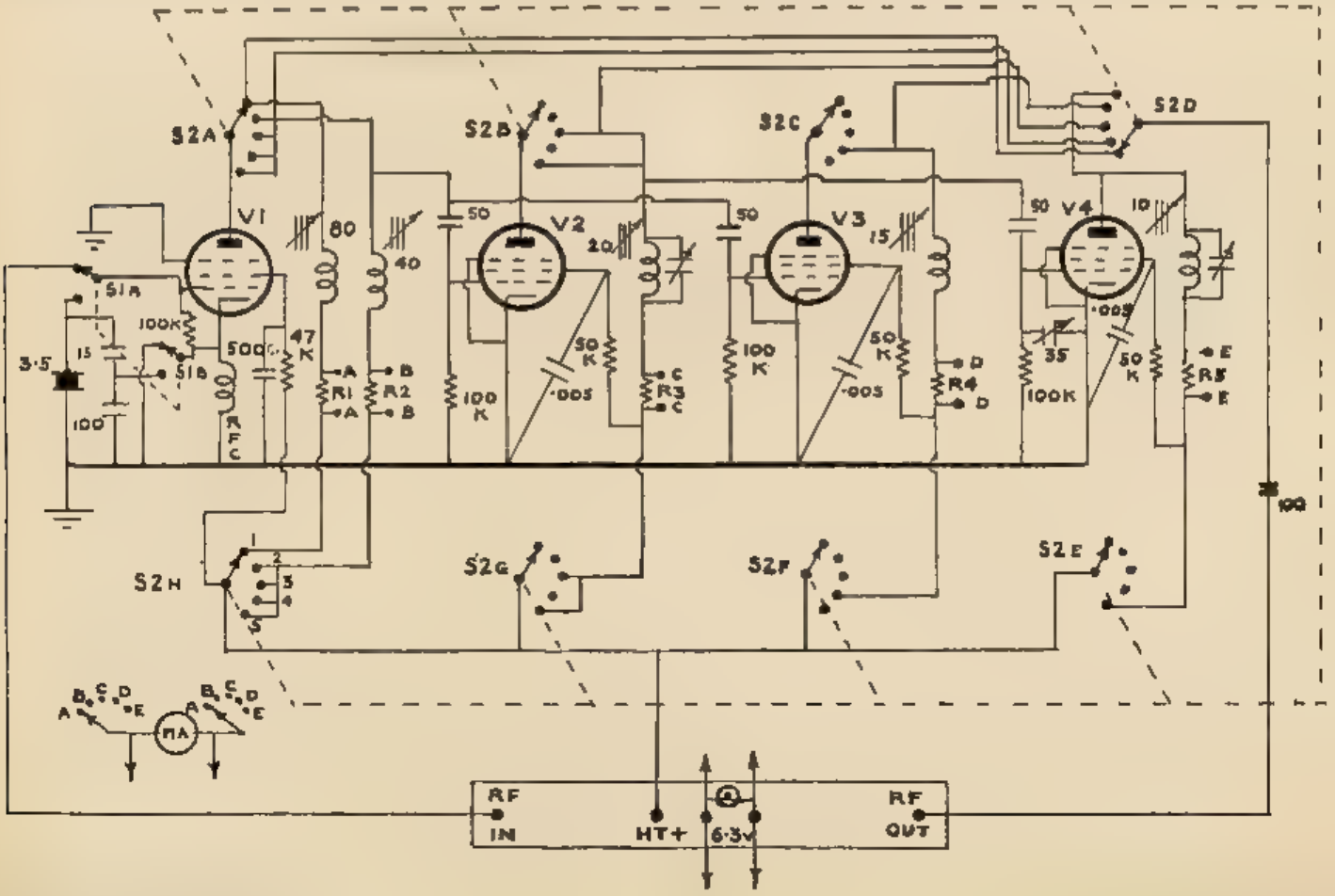
At position 1, h.t. is fed to the 80 metre coil and thence to the plate of V1. Valves V2, V3 and V4 have no h.t. supplied at this position, which in itself forms a saving of power used by the rig and at the same time rendering the stages for 7, 14, 21, and 28 Mc. inoperative.

Moving the switch to position 2, h.t. is removed from the 80 metre coil and fed through the 7 Mc. coil to V1. At position 3, h.t. is fed to V2 and V1 only and the output is taken from the plate circuit of V2 only. At position 4, h.t. is placed on V3 and V1, and removing it from V2 and V4, thus rendering V2 and V4 inoperative. Finally, when position 5 is set h.t. is fed to V1, V2, and V4 only and V3 is opened. Thus at no time do the whole four valves draw current simultaneously.

Mounting this switch at first proved difficult as long leads were hard to avoid. However by using four two-pole five-position switches, each mounted near its respective components, and by chain coupling them with chain and sprocket drive, it was possible to drive or rotate the switches from one control and at the same time keep all leads short and direct.

The coils for 80, 40 and 15 metres are slugged to the middle of the band and need no further tuning once they are set. The 20 and 10 metre coils, having a larger range of frequency spectrum to cover, have peaking condensers

(Continued on Page 11)



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"ACOS" CRYSTAL MICROPHONE INSERTS

MIC. 3 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.3-2	General Purpose	1¼in dia. x ¼in thick	20db Peak at 2500 C.P.S.	Mona	£1 19 3
MIC.3-5	" "	" " " " "	12db " " " "	Mervyn	1 19 3
MIC.3-6	" "	" " " " "	5db " " " "	Myrtle	1 19 3

MIC. 6 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.6-4	General Purpose	2 1-32in dia. x 19-32 thick	20db Peak at 2250 C.P.S.	Margie	£1 19 3
MIC.6-6	" "	" " " " "	5db " " " "	Maudie	1 19 3
MIC.6-11	" "	" " " " "	12db " " " "	Mandy	1 19 3

MIC. 14 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.14-5	General Purpose	1 7-16in dia. x 11-32in thick	20db Peak at 3500 C.P.S.	Maxie	£1 19 6
MIC.14-11	" "	" " " " "	12db " " " "	Mitchell	1 19 6
MIC.14-12	" "	" " " " "	5db " " " "	Malcolm	1 19 6
MIC.15	Hearing Aid	0.9in dia. x 0.155in thick	30db " " 3000 "	Marlene	1 19 6
MIC.17	" "	15-16 in sq. x 7-32in thick	30db " " 3500 "	Maggie	1 19 6
MIC 18	General Purpose	1 7-16 in dia. x 9-32in thick	20db " " " "	Maisie	1 19 6

MIC. 23 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.23	General Purpose	1 3-16 sq. x ¼in thick	20db Peak at 3000 C.P.S.	Maureen	£1 19 3
MIC.23-3	" "	" " " " "	5db " " " "	Margaret	1 19 3
MIC.23-4	" "	" " " " "	12db " " " "	Milton	1 19 3
MIC.32	High Quality	1 13-16 dia. x 9-16in thick		Martin	2 15 6

All Microphone Inserts, except MIC.15-17-18, are fitted with inbuilt 10 meg. Resistor.
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EXCLUSIVE AUSTRALIAN AGENTS **AMPLION (Australasia) PTY, LTD,** CABLES and TELEGRAMS AMPLION — SYDNEY

A Simple and Effective "S" Meter

BY D. BEADEL,* VK9DB

Here is an "S" meter which is so simple in circuitry and application that it has possibly been overlooked by the majority of Amateurs. The basic circuit, as shown in Fig. 1, requires only a meter movement to provide a signal strength meter that has many decided advantages and very few minor disadvantages.

This "S" meter requires no additional components or tubes, is of the forward reading type, and can be inserted in any communications receiver with the minimum of modification.

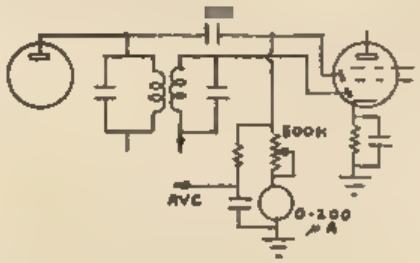
The only exacting requirement is that the meter should have a sensitive movement, preferably in the order of 100 microamps, but as low a sensitivity as 500 microamps. may prove satisfactory in many receivers.

The scheme is simply to read the current of the a.v.c. (or signal) diode, whether it be a single or multi-function tube. As can be seen in Fig. 1, the a.v.c. diode load may be replaced by a suitable rheostat which can then be employed as an "S" meter adjust control when initially calibrating the unit. Naturally the delay on the a.v.c. diode will decide the signal strength that is required to make the diode conduct, which in turn is directly affected by the gain ahead of the diode. However, the average receiver, when connected to an antenna and tuned off a station with r.f. gain at maximum, will usually provide sufficient noise to produce some small a.v.c. voltage and consequently a low reading on the metre, and any signal above this level provides an appropriate deflection. So, in effect, we are reading a.v.c. voltage directly and using the diode load as the multiplier in our metering circuit.

This system, however, depending on the meter used and the multiplier required therefore, may reduce the available a.v.c. voltage and may impose additional loading on the final tuned circuit in the i.f. amplifier. However, the more sensitive the meter, the less pronounced will be the effect. Yours truly happens to be employing the circuit on a modified BC342 and a 200 microamp. meter in conjunction with a 500K ohm rheostat connected potentiometer is used, the potentiometer being adjusted to approximately 400K ohms to give the required calibration.

The actual calibration and what input is required to provide an S9 signal is something for the user to decide. This station uses a purely arbitrary value as possibly do the majority of users, the purpose being to provide a **consistent** report, not a laboratory check. However, as an indication of what inputs may be involved: If we select 0.5 microvolts as representing a signal strength of S1, then a quick calculation will show that by doubling the voltage for each additional "S" point (e.g. doubling voltage = 6 db increase) and provided we accept that one "S" point equals a 6 db change, then an S9 signal represents an input of 128 microvolts approx. (actually 125.8 u/v.)

The r.f. gain control will, of course, affect the signal fed to the a.v.c. diode and consequently a setting must be decided upon when calibrating the meter. The obvious choice appears to be to have the gain wide open.



A thermionic or crystal diode may be connected to the output of the i.f. amplifier, thus providing an "S" meter circuit completely divorced from all other circuits, though additional loading is imposed on whichever tuned circuit is selected. This arrangement, however, has no effect on the a.v.c. circuits and the series multiplier may be reduced to a low level as is required for less sensitive meters. However, the loading effect may be considerable under these conditions.

Provided the sensitivity and signal/noise ratio of the receiver is reasonably constant over its entire coverage, no adjustment is required of the meter once calibrated against the "S" unit divisions on the meter scale, and the potentiometer in my case is mounted internally and is not accessible from outside of the receiver.

The connections to the "S" meter, if such is located outside of the receiver, may be made with absolutely no fear of causing audio instability, due to the low impedance nature of the meter movement itself.

A variety of variations of this basic circuit suggest themselves. One, where it is desired to use an 0-1 Ma. movement, being to provide an additional i.f. amplifier and diode circuit, using say a 6B8G, 6G8G tube, to provide additional power for such a meter. Tuned circuits are not required and a resistance/capacity coupled amplifier would suffice.

* 4 Mile, Port Moresby, T.N.G.

The Complete Amateur—Crystal Oscillator and Multipliers

(Continued from Page 9)

across the coils, thus enabling maximum output to be delivered to the grid circuit of the final chassis.

You will notice in the grid circuit of V4 that a small additional trimmer is included from grid to earth. This is to further assist in maintaining coverage across the 28-30 Mc. spread and once set should not need retuning.

The circuit is straight forward, both from a constructional and operating point of view and should present no difficulties. When tuning to resonance or dip watch the grid meter in the final rig for maximum movement, indicating maximum drive being delivered. It will usually be found that maximum grid drive is just off maximum dip and this is as it should be.

Great care in shielding between stages is not necessary as each unit of the multiplier stage operates on a different frequency. The main objects to watch are solid wiring, good soldered joints and clean workmanship. Use co-axial cable between the input of the multiplier and the v.f.o., also between the r.f. output of the multiplier and the input of the final.

All stages are capacity coupled and the valves are arranged in cascade.

COIL DETAILS

80 Metres—1" of winding on 1" diameter former of 28 B. & S. enamel.

40 metres—36 turns, 1" diam., 28 B. & S.

20 metres—22 turns, 16 t.p.i., ⅜" diam., 18 B & S. enamel.

15 metres—12 turns, 16 t.p.i., ⅜" diam., 18 B. & S. enamel.

10 metres—8 turns, 16 t.p.i., ⅜" diam., 18 B. & S. enamel.

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VK7WI Operates from Hobart Science Exhibition

In May, 1953, the Tasmanian Division of the W.I.A. was invited to provide an exhibit at a proposed Science Exhibition to be held as part of Tasmania's Sesqui-Centenary Celebrations. As this was thought to be an excellent opportunity to bring Amateur Radio before the public, the Institute accepted the invitation and a committee consisting of R. O'May, 7OM; R. Calvert, 7RT; K. Johnson, 7RX; F. Evans, 7FJ; L. Jensen, 7LJ; and L. Edwards, 7LE, was formed to handle the project.

It was decided that the exhibit would consist of a typical Amateur Station to be operating under the call sign of VK7WI during the hours the Exhibition was open and since the Division did not have its own transmitter, a suitable rig would be built for the occasion, this rig to become the official 7WI rig at the club rooms after the Exhibition was over.

PREPARATION OF TRANSMITTER

After a little gentle persuasion, Joe Brown, 7BJ, volunteered to design a suitable transmitter, and Joe, in his usual efficient way, produced a design using a band-switched exciter using 6V6s driving an 813 with an all-band tank, modulated by class B 807s.

Since it had been decided that an attempt would be made to build the transmitter from parts donated, this design seemed at first a little optimistic, but when a list of parts required was sent to all members, the response was beyond expectations and nearly all the parts required and a good sum of money were received.

All this part of the project took some considerable time and it was late in November before the actual building commenced. At the December meeting volunteers were asked for to build the various units and again the response was excellent, more volunteers being available than units to build. As the deadline for the exhibit was 7th January, the building of the transmitter developed into one mad rush as the Christmas holidays drew to a close and the opening day drew near, the last few days being a nightmare for all concerned.

Despite much burning of the midnight oil in an effort to get the rig going in time, it was found that on the opening day there were still some finishing touches to be added and tests to be made. It was decided, therefore, to accept the offer of Bill Watson, 7YY, of the loan of his rig and the unfinished transmitter was exhibited as a transmitter under construction.

METHOD OF RECEIVING

It was anticipated that because of the location of the City Hall next to the Tramway workshops and because of other electrical exhibits in the Hall, the noise level would be very high, especially as the Hydro-Electric Commission intended exhibiting the high voltage testing of insulation and demonstrations of man-made lightning. It was therefore decided that the receiver would be at some quiet location and signals fed from the receiver to the Hall by 144 Mc. link.

The receiving centre was set up at the residence of Mr. Bill Tait at Mt. Stuart and a set-up designed to tune the receiver remotely from the Hall so that the operator would have the receiver under his control. This was done by coupling a reversing motor to the receiver and controlling the motor by means of two audio tones transmitted from the Hall to the receiving centre by 144 Mc. link. The Hall operator had, therefore, only a three position key as a receiver tuning control—the three positions being tune high, tune low and stop, and, after a few minutes' practice, it was surprising how easily stations were tuned—when they were there!

Unfortunately, conditions for the ten days the Exhibition was open proved to be very poor, 14 Mc. being the only band worth working, but, despite this, a total of 120 stations were worked, including all Australian States and several KG6s, ZLs, and a VR4.

Staffing of the station proved to be somewhat of a problem as the Exhibition was open from 11 a.m. to 10 p.m. every day for ten days. Day-time operators were drawn mainly from those doing shift work, but in the evenings the position was easier, any visiting members doing their share to relieve the rostered operators.

AERIAL SYSTEM

The aerial system consisted of an 80 metre half wave end fed slung between two convenient flag poles on top of the Hall; quarter wave feeders were run down the outside of the Hall and through a window.

The two two-element beams for the 144 Mc. link to the receiving centre were also mounted on one of the flag poles, the co-axial feeders following the same route as the tuned feeders to the equipment in the Hall.

To make the exhibit more interesting from the public's point of view, a unit consisting of three six-inch c.r.o. tubes was built to show the carrier as generated by the oscillator, the speech waveform from the microphone, and the combined envelope pattern as radiated by the aerial. The entire background of the exhibit consisted of several hundred QSL cards representing approximately 126 countries and loaned by 7RX and 7LJ. Mounting the cards took five packets of pins and the 7LJ family all one evening, but made a very colourful and interesting backdrop.

The erection of the stand proved to be no great problem except that all timber yards were closed for the holidays and timber had to be obtained from a sawmill several miles out of town. Good work was done with a hammer and paint brush by one of the 7OM junior operators.

If the interest shown by the public can be taken as any indication, the exhibit proved to be a great success, good crowds being attracted to the stand, especially when the band was open and stations were being worked. The exhibit will go a long way towards advertising the Institute and Amateur Radio generally, and the success of the venture is due to the interest shown and the co-operation given to the committee by members of the Division.

Donors and helpers are too numerous to mention personally, nearly all members donating either parts or money or helping in some way. However, I feel that some mention should be made of the excellent work done by Tom Allen, 7AL, who built the r.f. and modulator units for the transmitter and allowed the use of his business premises for assembling the rig. Tom Moore, 7FM, who wound most of the power transformers and the modulation and driver transformers, and for his long hours of operating the station. Joe Brown, 7BJ, for his excellent design and efforts to get the rig going in time; L. Jensen, 7LJ, for printing signs and special 7WI QSL cards and assembling the power supply for the transmitter. Keith Johnson, 7RX, for making all the chassis for the transmitter and cabinet for the c.r.o. unit. To Bill Tait for his long hours on duty at the receiving centre and his help with the erection of the stand, also to Mrs. Tait for her tolerance in allowing all the receiving equipment to be set up in her best room; and to Bill Watson, 7YY, for his relay modifications and loan of his transmitter, etc. But the list of helpers is much too numerous to mention personally and on behalf of the committee, I would like to thank all those members who gave their time, parts and money to make the exhibit the success that it was. The Division has benefited by now having a first-class transmitter, a quantity of spare parts and timber to fit out the proposed shack at the club rooms.

A description of the transmitter and details of the remote receiver tuning arrangements will be subjects for future articles for the magazine.

—L. W. Edwards, VK7LE.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

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Money Orders and Postal Notes payable North Hawthorn P.O. Packing Charge on all goods over 10 lbs. in weight, 5/- extra.

Command Transmitters: Freq. 4—5.3 Mc., 5.3—7 Mc., or 7—9 Mc. Complete with valves and crystal £7/10/-

AT5 Transmitters, comp. with valves, £7/10/-

522 Transmitters, comp. with valves, £12/10/-

AT5 Aerial Tuning Units, A.W.A. Contains two Relays and 0-5 Ma. Meter £2/10/-

Bendix RA1B Power Supplies, 240 volt AC, 24v. at 1 amp. output 250v. HT, £5 each.

Genemotor Power Supply, new, SCR522, 24v. input, 150v. and 300v. output at 300 Ma. Includes relay, voltage regulator, etc. A gift at 35/-. Too heavy for postage.

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4v. Filament Transformers 15/-

18 VOLT GENEMOTORS, I.F.F. TYPE, WANTED URGENTLY. STATE PRICE.

American Headphones, low impedance, complete with Cable 25/-

Single Shielded Hook-up Wire, new, 8d. yard

Hammarlund BC191E Plug-in Coil Units, contains two variable condensers, coil formers, fixed condensers, etc. Complete £2/10/-. Less vernier dial, £2.

Six volt bayonet type Dial Lamps .... 1/- each

Locktal Sockets ..... 1/6 each

Valve Sockets, ceramic, 8-pin Octal 2/6

Valve Sockets, ceramic, 4-pin 2/6

Five-core Cable, not shielded ..... 8d. yard

Solor 28 pF. silver plated wide-spaced Condensers ..... 7/6 each

72 Ohm Co-axial Cable ..... 2/- yard

Co-ax Connectors, male/female, small Pi type, new ..... 2/6 pair

2 uF. 1000v. block type Chanex Cond., 12/6

Shielded Cable with two 12-pin Plugs 7/6

Phone Plug and 4 ft. Cable, American 4/6

Meters—0-5 Ma., square type, new 27/6

Meters—0-5 Ma., 2" round, scale 0-15, 0-250 Ma., A.W.A. AT5 type, less ext. shunt, 25/-

Meters—0-40, 0-120 Ma., separate connection, new 27/6

Meters—0-150 Ma., round type, new 27/6

Meters—0-20 volt, 5 Ma. movement, square type, 2 inch, new 15/-

Meters—0-2.5 Amp. R.F., square type, 2 inch, new 15/-

Meters—0-5 Ma., 1½ Ma. movement, round type, 2 inch, new 22/6

NEW VALVES

12K8	10/-
211	30/-
834, R.C.A.	£1
884 Gas Triode	25/-
100TH	45/-
954 American	10/-
955 American	10/-
957 Acorn Triode. Filament: 1.25v. at 50 Ma., plate current 2 Ma. Ideal for portable equipment	10/-
EF50	10/-

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1A3	10/-	6U7	10/-
1A5	10/-	6V6	10/-
1G4	7/6	6X5	10/-
1K5	7/6	7A6	10/-
1K7	7/6	7A8	10/-
1L4	10/-	7C5	10/-
1S5	10/-	7C7	10/-
2A3	10/-	7F7	10/-
2X2	10/-	7G7	10/-
[illegible]	10/-	7N7	10/-
[illegible]	10/-	7W7	10/-
5R4GY	20/-	7Y4	10/-
5U4	12/6	12A6	10/-
6A3	10/-	12AH7	10/-
6A8	10/-	12C8	10/-
6AC7	10/-	12J5	10/-
6AG5	15/-	12SG7	10/-
6BE6	15/-	12SK7	10/-
6C4	12/6	12SQ7	10/-
6C5	10/-	12SR7	10/-
6C6	7/6	807	10/-
6C8	10/-	809	50/-
[illegible]	10/-	813	60/-
[illegible]	10/-	815	50/-
6F8	10/-	832	50/-
6G6G	10/-	866	20/-
6H6	5/-	956	10/-
6J5GT	10/-	1603	10/-
6J6	15/-	1626	10/-
6K6	10/-	1629	10/-
6K7G	7/6	2051	10/-
6L7	10/-	7193	5/-
[illegible]	10/-	9002	10/-
[illegible]	15/-	9003	10/-
[illegible]	10/-	9004	10/-
6SH7	5/-	EF50	7/6
6SH7GT	4/-	OA4	10/-
6SJ7	10/-	VR105	15/-
6SK7	10/-	VR150	15/-
6SL7	15/-	VR65A	2/6
6SN7	10/-		
6SS7	10/-		

Command Receivers, 150—550 Kc., £9/10/-

Command Receivers, 3 to 6 Mc., and 6 to 9 Mc. As new, less genemotor; air tested, £7/10/-

AR8 Receivers, complete with Valves and air-tested £22/10/-

AR12 Receiver, converted to 230v. AC, contains Xtal Filter £27/10/-

AR8 Connecting Cables, 8-pin sockets, 5/- ea.

522 Receivers, original cond. with valves, £9

R1155A English Com. Receiver, nine valves, five bands, freq. range: 75 Kc.-18 Mc., original condition, less power supply, £29/10/-

AR301 High Freq. Receiver, uses three 954s, one 955, six 6AC7 I.F. stages at 30 Mc. Easily converted to 144 Mc. Complete £6/10/-.

American I.F.F. Units, complete with Valves, less Genemotor ..... £5 each

Relays, A.W.A., Aerial Change-over type, 12 volt 35/-

American Antenna Change-over Relays, "Leach," 24 volt 250 ohms, ceramic insulation. Beautiful job. A gift at 35/-

Coils, small slug-tuned type, suitable for Converters, etc. 3/6

Shielded Wire, 16 a.w.g. single core. In 100 yard roll 30/-

English Carbon Mike Transformers, new, 5/-

LARGE STOCK OF CRYSTALS

100 Kc. R.C.A. Crystals £4

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500 Kc.	6000 Kc.	7097 Kc.	8182.50 Kc.
775 Kc.	6200 Kc.	7100 Kc.	8183.5 Kc.
1777.5 Kc.	7010 Kc.	7109 Kc.	8317.2 Kc.
2050 Kc.	7012 Kc.	7118 Kc.	8318 Kc.
2075 Kc.	7013 Kc.	7121 Kc.	8320 Kc.
2716 Kc.	7020 Kc.	7125 Kc.	8488 Kc.
3482.5 Kc.	7021 Kc.	7126 Kc.	8500 Kc.
3503 Kc.	7022 Kc.	7130 Kc.	9125 Kc.
3509 Kc.	7023 Kc.	7134 Kc.	10 Mc.
3511 Kc.	7031 Kc.	7145 Kc.	10.511 Mc.
3512 Kc.	7032 Kc.	7156 Kc.	10.524 Mc.
3515 Kc.	7032.6 Kc.	7163 Kc.	10.530 Mc.
3516 Kc.	7048 Kc.	7174 Kc.	10.536 Mc.
3528 Kc.	7052 Kc.	7179 Kc.	10.544 Mc.
3532 Kc.	7062 Kc.	7202.3 Kc.	10.546 Mc.
3539.3 Kc.	7063 Kc.	8000 Kc.	10.563 Mc.
3634 Kc.	7064 Kc.	8017.5 Kc.	11 Mc.
3640 Kc.	7068 Kc.	8027 Kc.	12.803 Mc.
3675 Kc.	7072 Kc.	8028.5 Kc.	14.020 Mc.
4285 Kc.	7089 Kc.	8092 Kc.	14.105 Mc.
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5000 Kc.	7093 Kc.	8171.250 Kc.	14.322 Mc.

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DIRECT AND INDIRECTLY HEATED SUB-MINIATURE VALVES FOR COMPACT COMMUNICATIONS EQUIPMENT.

Developed originally for Service applications, these Mullard sub-miniatures combine outstanding electrical performance with small size and extremely low power consumption. The battery sub-miniatures offer special advantages in "Hand Talkie" equipment, while the indirectly heated types are especially suited to all electronic applications where space is limited or where shock impact or high g vibration is encountered.

Many thousands are already in use in Australia in V.H.F. communications and other vital equipment, providing outstanding service under the most rigorous conditions.

The illustrations give the actual size and complete technical details will be gladly supplied on request.

Type No.	Description	Filament or Heater (V)	(mA)	Va = Vg2 (V)	—Vg1 (V)	Ia (mA)	Ig2 (mA)	gm (mA/V)
EA76	Single diode (5 mm. bulb)	6.3	150	150 (max.)	—	9.0 (max.)	—	—
EC70	U.H.F. triode oscillator	6.3	150	100	2.0	13	—	5.5
EF70	High slope R.F. pentode with short suppression grid base	6.3	200	100	2.8	3.0	2.5	2.6
EF71	Variable-mu R.F. pentode	6.3	150	100	1.2	7.2	2.2	4.8
EF72	High slope R.F. pentode	6.3	150	100	1.4	7.0	2.2	5.0
EF73	High slope pentode for industrial applications	6.3	200	100	2.0	7.5	2.5	5.25
EY70	Half-wave rectifier	6.3	450	250 (max.)	—	45 (max.)	—	—
DY70	High voltage rectifier (directly heated)	1.25	140	10KV (P.I.V.)	—	2.0 (max.)	—	—
DAF70	A.F. pentode combined with single diode	1.25	25	67.5	0	1.0	0.25	0.44
DF72	R.F. pentode with sharp cut-off	1.25	25	67.5	0	1.7	0.5	1.0
DF73	Variable-mu R.F. pentode	1.25	25	67.5	0	1.7	0.5	0.8
DL70	R.F. output pentode ..	1.25	110	180 (Vg2=90V)	—7.5	6.5	1.4	1.6
DL75	Output pentode	1.25	25	90	—2.5	1.75	0.4	0.85

The sub-miniature silica-loaded polystyrene socket illustrated (with silver-plated contacts) receives the stubs formed by jig cropping the 1½" long flying leads, which, if preferred, can be wired directly into the equipment.

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INDUSTRIAL POWER VALVES AND RECTIFIERS—TELEVISION PICTURE TUBES—ELECTRONIC PHOTO-FLASH TUBES—HEARING AID VALVES—X-RAY TUBES AND ACCESSORIES—GEIGER COUNTER TUBES—CATHODE RAY TUBES—PHOTO CELLS—IMAGE CONVERTERS RADIO RECEIVING AND TRANSMITTING VALVES—THYRATRONS—STABILISING AND VOLTAGE REFERENCE TUBES—ELECTROMETERS—COLD CATHODE TUBES—MEASURING INSTRUMENTS—SCIENTIFIC APPARATUS—RADIO RECEIVERS—COMMUNICATIONS EQUIPMENT—ULTRASONIC GENERATORS—PERMANENT MAGNETS—MAGNETIC MATERIALS AND COMPONENTS, ETC.

MRA-53

AMATEUR CALL SIGNS

FOR THE MONTH OF JANUARY, 1954

ADDITIONS

New South Wales

VK—

2QS—V. B. Aldrich, 12 Robinson St., Chatswood.

2AAL—A. R. Price, "Sunny Corner," 25 Robertson Rd., North Curl Curl.

2AQO—P. L. Hay, 33 Concord Rd., Strathfield.

2AQU—H. J. Champion, C/o. Dept. of Civil Aviation, Lord Howe Island.

2ARZ—M. R. B. Riley, 5 Baringa Rd., Mortdale Heights.

2ASS—S. W. Banks, 101 Robey St., Maroubra.

2AXH—W. H. Hannam, 32 Hillcrest Rd., Terrigal.

2AYS—L. T. E. Scown, 32 Silver St., Broken Hill.

Victoria

3AFL—S. L. Skinner, 8 Fontaine St., Pascoe Vale, W.7.

3AGW—A. G. Wilkey, Lot 117, Box Hill Rd., Oakleigh.

3ALN—A. S. W. Taylor, Station: Scobie St., Avenel; Postal: Aeradio Station, Manifold West.

3AXJ—I. W. Jay, 90 Grandview Grove, Rosanna, N.22.

Queensland

4BV—W. S. Beaney, 17 Spencer St., Rockhampton.

4JD—J. E. Patterson, 8 Alice St., Toowoomba.

4KX—A. M. McGregor, 6 Murray St., Red Hill, Brisbane.

4ML—M. L. Weeks, Station: Thursday Island; Postal: C/o. O.T.C. Radio Station, Thursday Island.

South Australia

5FT—F. K. Tapley, 10 Burke St., West Croydon.

5UR—C. G. Rowe, Station: Montow St., Darwin; Postal: C/o. Dept. of Health, P.O. Box 98, Darwin.

Western Australia

6EH—E. C. Hodgson, 176 Dugdale St., Wembley.

ALTERATIONS

New South Wales

VK—

2DA—8 Seaview Street, Balgowlah.

2FJ Bourke Ave., Bradwater, Saratoga, via Gosford.

2KS—74 Caldwell Parade, Yagoona.

2MF—18 Hamil Crescent, Earlwood.

2SQ—10a Ronald Street, Dubbo.

2YA—C/o. Mrs. Black, 23 George St., Liverpool.

2ABR—C/o. Deepwater Motor Boat Club, Webster Road, Milperra.

2AEM—368 Tribune Street, Albury.

2AJJ 49 Telopea Street, Mt. Colah.

2ALU—Power Station Residence, Cowra.

2ASB—No. 2, 14 Howe Crescent, Ainslie, Canberra, A.C.T.

2AUC—70 Corunna Road, Stanmore.

2AVB—2 Hillmont Avenue, Thornleigh.

2AWQ—3 Robert Avenue, Russell Lea.

Victoria

3EJ—Main Street, Lilydale.

3FE—30 Louise Avenue, Mont Albert.

3IE—49 Cookson Street, Camberwell.

3KM—106 Stevenson Street, Kew.

3LP—634 Hampton Street, North Brighton.

3MN—14 Sunlight Crescent, East Brighton.

3RT—18 Percy Street, Mitcham.

3VJ—27 Princess Avenue, Highett.

3WO—Doncaster Road, Box Hill.

3AGT—Armstrong Street, Tongala.

3AKC—Station: 31 Irving Street, Wangaratta, Postal: C/o. Wangaratta Broadcasting Co., P.O. Box 167, Wangaratta.

3AKJ—17 Kars Street, Frankston.

3AKL—60 Albenca Street, Mentone.

3AKP—Colquhuon Street, Stawell.

3APK—29 Richmond Street, Geelong East.

3ASH—17 Waltara Grove, Norlane.

3AWC—34 Miller Street, Bendigo.

Queensland

4ID—30 Bernard Street, Brighton, Brisbane.

4PX—13 Gadara Street, Hendra, Brisbane.

4RY—14 Lamette St., Holland Park, Brisbane.

Western Australia

6PJ—Cr. Brookshall and Gunn Streets, Floreat Park.

Tasmania

7DS—Smith Street, Longford.

7PM—Kelso.

7RT 2 Vantona Road, Sandy Bay.

7SD—170 Brisbane Street, Hobart.

7SK—Tranmere Road, Howrah.

7SJ 112 Tranmere Road, Howrah.

Territories

2AU Station: The Terrace, Lae, T.N.G.; Postal: C/o. R.T.C., Lae, T.N.G.

DELETIONS

New South Wales: VKs 2FF, 2GP, 2GV, 2LY (now operating under VK3AFL), 2OU, 2AAK (now operating under VK2AAL), 2AAL (see new entry), 2AHL, 2AIA, 2AKX (now operating under VK4KX), 2ANN, 2AOZ, 2AWU.

Victoria: VKs 3BD, 3JP, 3AVB (now operating under VK2QS).

South Australia: VKs 5GE, 5HJ (now operating under VK2AQU).

Western Australia: VKs 6GL, 6LB.

Territories: VKs 9BI (now operating under VK3AGW), 9BJ, 9LW, 9RT.

— • • • —

AMATEUR BANDS AVAILABLE

*1.84—	1.86	Mc.	†288—	296	M.c
3.5 —	3.8	„	†576—	585	„
7 —	7.15	„	1,215—	1,300	„
14 —	14.35	„	2,300—	2,450	„
21 —	21.45	„	5,650—	5,850	„
26.96—	27.23	„	10,000—	10,500	„
28 —	30	„	†21,000—	22,000	„
50 —	54	„	†30,000 Mc. and		
144 —	148	„	Above.		

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.

† Temporary allocations.

DX ACTIVITY BY VK3AHH†

DX HIGHLIGHTS

At last there is c.w. activity from **Fanning Island! VR3D** operates on 7026 and 14052 Kc.

Rio de Oro should be represented for about 15 days from the 4th March, 1954. Call signs will be EA9DE and EA9DF (thanks 3ATN).

TI9AA has been active from Cocos Island.

When these notes reach you the appearance of VQ6UU and FL8UU will belong to the past but operation of that station from Yemen can be looked forward to (thanks 3CX).

VQ4NZK intends to operate as VQ9NZK, VQ7NZK and VQ1NZK (thanks 3ATN).

Heard Island is back on the Ham bands again with George **VK1DY** (thanks 3KB).

BAND CONDITIONS

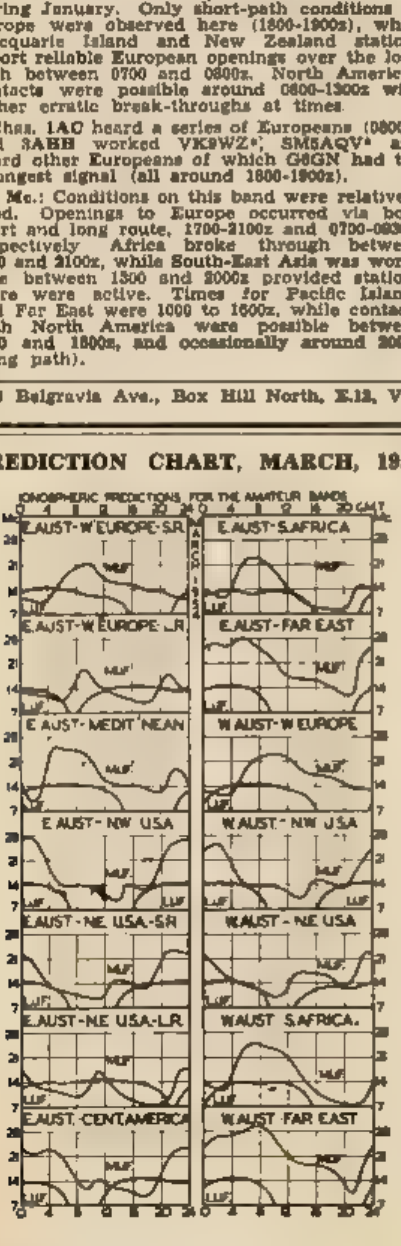
3.5 Mc., Europe and North America and perhaps Asia were the only continents workable during January. Only short-path conditions to Europe were observed here (1800-1900z), while Macquarie Island and New Zealand stations report reliable European openings over the long path between 0700 and 0800z. North American contacts were possible around 0800-1300z with rather erratic break-throughs at times.

Chas, 1AC heard a series of Europeans (0800z) and 3ABH worked VK9WZ*, SM5AQV* and heard other Europeans of which G6GN had the strongest signal (all around 1800-1900z).

7 Mc.: Conditions on this band were relatively good. Openings to Europe occurred via both short and long route, 1700-2100z and 0700-0830z, respectively. Africa broke through between 1600 and 2100z, while South-East Asia was workable between 1500 and 2000z provided stations there were active. Times for Pacific Islands and Far East were 1000 to 1600z, while contacts with North America were possible between 0700 and 1800z, and occasionally around 2000z (long path).

† 10 Belgravia Ave., Box Hill North, E.12, Vic.

PREDICTION CHART, MARCH, 1954



If QSOs with W* land are again regarded as commonplace, 1AC heads this month's list with Europeans* and HL1AA (1400z), while Frank 2QL reports KP4JE* VR3D*, ZK2AC*, CN8FL*, VQ4AQ*, Europeans* and ZS5DN, ZS5PH, OQ0DZ, XE2LA. Laurie 2AMB heard HR1AA, and Les 4XJ spoke to KH6AYG*. Ted 5DP worked MP4BBD* and Europeans*. Col 7LZ has spent quite some time on this band with results like KC6AA* KC6AF* MP4BBD* (at 1400z) VR3D*, KV4AA*, KV4AQ*, VU2AT*, VR2AS*, KX6BC*, XE2LA* DU1NL* VS2EB*, HS1D*, AP2K*, Europeans* and 4X4RE, VS6CG. Alan 3YY mentions JZ0KF*, KX6BG* and JZ0KF* also on phone. S.w.l. reports come from Eric BERS195 CE3QW FA9RW, KX6BH, KX6BU, MP4BBD, OQ0DZ, VQ4AQ, VR2CG, VR3D ZE3JP, ZS2A 4X4BT, plus a long list of Europeans. Dick Jenkin AP2K on c.w and VQ5EJ, 4S7SW, VS1 on phone. Dave Jenkin: VR3D. Here at 2AHH we have KR6AA*, ZK1AB*, JA1BU*, 4S7XG*, VS1FE*, Europeans*, and HC1FG, XE2LA, VR3D, VQ4AQ, 4X4RE, KZ5CR.

14 Mc. General conditions were poor and very erratic during January. Rather unreliable European conditions prevailed between 0900 and 1500z, while Africa sometimes broke through around 0500-0800z and 1100-1700z with weak signals. Conditions to North America were observed between 0500 and 0700z and 2000 and 2300z, with South America around 0900-1400z and 2000-2100z.

As is usual, contacts with common stations in W land, Europe, Pacific Islands and Far East will not be mentioned in particular.

Dots and Dashes revealed the following activity. 1AC worked VU2* LU5AQ* KV4*, LU3CM*, VS6CG*, UA9KCC* and 2QL mentions YI2AM*, DU1CV* ZC4IP* ZC3VS*, 3V8AN* OA4ED*, and LX1AS, 4S7LB, HR1AA. Noel 2AHH QSOed 4X4BA*, a series of ZS*, CN8BJ* LX1AS*, 4S7AP*, A54TG* VQ4EI*, 5A1TP* followed by Alan 3CX TA3FA8*, DU1CV*, FN8AD*, C3AW*, FI8AZ* HS1D* DU1DO*, VQ4EG*, VQ4EI* The next in line is Alf 3KB with PX1AB* DU1CV*, FI8AT*, FI8AR* HR1AA*, YK1AH* 3V8AN* ZS8*, VK1DY* Ken 3KB worked FI8AR*, HR1AA* VQ4EG* ZS* HS1D*, while Lee 3XO keyed with ET2NG*, VS9AG*, VQ9KIF*, 9S4AX*, CP1BX* HR1AT* ZB1BU*, HS1D* 4X4* VS1* PI* KV4*, 4S7* XZ*, VU2* Lin 3ANJ reports ZC5VS*, VQ4AQ*, ZK1AB*, followed by Eric 3ANQ with YI2AM* and HS1D, Bob 4RW contacted HZ1AB*, CN8AF*, ZS*, 4S7*, ZC4IP, YI2AM*; and Ray 5RK mentions CR9AF*, MP4BBE* Austin 5WO QSOed XZ1OM*, ZS* W A is well represented by John 6GL with FA9VN* FQ8AP*, CR6AI*, PY2CK* PY4EE*, VQ2CW*, C3BF* CR9AF*, OD5AV*, 5V0WE*, ZK1BI* 5A4TG* 3V8AN* 3YY has another fine list showing ST3HK*, VR2BZ*, JZ0KF*, FI8AZ*, FI8AP*, HS3CA*, FI8AE*, VQ4EI* HZ1TA* ZS* ET2NG*, and VS6CT* BERS195 heard CM9AA FA9VN, FI8AZ FL8UU (1600z) FN8AD FO8AB HP1LB, HR1AA HS1D JZ0KF LU4WK SU1SS/MD8, MP4BBE PY2CK VP9BD VQ4AQ VQ4RF, VR3D VR4 VU2 YI2AM ZE3JP, ZS 3V8AN, 4S7, 4X4BT, and we have another s.w.l. report from Dave Jenkin with ZS, OA4ED, 5A4TH, VU VQ2AB. 3AMB's log shows FW8AB*, VR3D* ZS* XE1TD*, VS1*, YI2AM*, and FB8XX and HZ1AB.

Here is how the band presented itself on phone: 2AHH worked FA3JY*, 4X4FQ*, 4X4CX* HZ1TA*, ET2PA*, 4X4BT* 4X4DR*, CN8MM* HZ1AB*, 4S7BW*, EA8BB*, VQ2DC*, ZD6JA*, ZS8* ZE2JE*, ZE3JY* VQ4EU*, VQ5EK*, YI2AM* Neville 2APL spoke to PY8HF*, VR2CM* while Stan 3TE QSOed FI8AN*, FI8AT*, HS1WR* HZ1AB* LX1SI*, OD5LC* PY5DP* VS1s*, VS2 VS9GV*, XZ8*, XW8AA* YI2AM* ZS8* 4S7* Rex 3UK reports ZS8. ZC4SF* KA0IJ* and John 2AKO mentions ZS8*, VS2* FI8AR* 4S7*, YI2AM* Ron 2ARV heard FR7AD 3ATN has again been quite active. Ray's excellent results are shown by ZS*, ZE8* CR7AU*, CR7AD*, VQ2PL*, CR6AJ*, VQ2FU*, 1U*, VQ4BP*, FI8AR*, FI8AT* FI8AZ*, KV4*, FSQV* (Corsica), ZS3P* CR6AG*, FQ8AK*, AO*, PY*, SU1MR*. Bob 4RW adds MP4BBL*, VR3C*, ZM6AA*, followed by John 3HJ with ZS* MP4BBL*, VU2* 6GU spoke to LX1SI*, KT1WX*, while Doug 7DZ tried his beam with results like KT1WX* VR4*, ZS*, KA0IJ*, LX1SI* ZE8JA*; and another Hobart station Keith 7BX reports FI8AZ*, VQ4BP* 4S7s* OD5AB* FI8AR*, VS8*, VP9AX* HS1WR*, VS9GV* 15BC*, XW8AA*, YV5AO*, CE3II* Up in the north 9YY got interested in "phone" with HZ1TA*, VR4*, VS8*, KA0IJ*, LU2NG*, XZ*. S.w.l. Norman Clarke heard PY2CK, VS, VU2s; followed by the young Jenkin brothers: Dick heard YI2AM, HZ1AB, CR3C, VS, 4S7, YS1MS, and Dave adds YI2AM, ZM6AA and ZC5SF.**

21 Mc. Erratic openings have been typical of this band for quite some time and so they were during January! Europe and Africa broke through on some days between 0900 and 1100z, and North America was represented by a few weak W signals around 2200-0100z.

Quentin 2IM worked MP4QAH*, DJ*, KW6BB* VU2EJ* and heard W1ATE. Percy 3FA reports 4S7XG*, VS8, VQ4AQ*, VS6AE*, YU3RC*, a long series of Gs*, and heard OZ7UU, CR7AD, ZB1BF, ON4AU, VQ4EG, VQ4RF, DL8, YI, MP4QAH John 0GU helps out with SM5CO*, Gs*, 4S7LB*, and VS*.

27 and 28 Mc.: These bands provided sporadic conditions to the Far East, W land, and Pacific Islands. I should like to emphasise that only the keen co-operation of a few stations consistently watching these bands nowadays, enables me to fill this paragraph—thanks chaps!

Chas. 1AC spent some time listening on the 28 Mc. band, observed short-skip conditions and heard VK5HI. Aub, 2AFE worked KA6RC*, and Norm 2ALJ reports KH6ARE* KH6ARN*, W3MET/MM*, and also heard a W5 Emergency Net on 27 Mc on 2/1/54. Les 4XJ worked KH6ARN* and W5MET/MM*.

GENERAL NEWS

The B.E.R.U Contest took place in the usual good style on the 30/31 January week-end and all participants should have had an enjoyable time. The once rare country "Fanning Island" should be normally workable from now on.

DX C.C. LISTING

PHONE

Call	No.	Ctr	Call	No.	Ctr
VK4HR	13	172	VK4RT	22	124
VK3BZ	3	168	VK4WJ	17	122
VK3EE	10	163	VK4JP	8	114
VK6RU	2	160	VK4DO	20	113
VK4FJ	31	159	VK5MS	24	109
VK3JD	1	155	VK4CB	25	109
VK4KS	9	153	VK3WM	29	109
VK6KW	4	150	VK3HO	25	103
VK3LN	11	141	VK2ADT	13	102
VK3AWW	14	140	VK2AHA	15	102
VK3JE	7	139	VK6PJ	19	101
VK4WF	18	137	VK3IG	5	100
VK3ATN	26	136	VK3GG	16	100
VK4RW	23	137	VK6LC	27	100
VK6DD	6	136	VK3AUP	30	100

C.W.

Call	No.	Ctr.	Call	No.	Ctr
VK3BZ	6	214	VK4RF	11	125
VK4HR	6	195	VK2YL	20	125
VK3FH	15	191	VK3YD	27	123
VK4FJ	20	184	VK3EK	3	122
VK4EL	9	172	VK3JI	25	118
VK3CK	26	160	VK3HT	37	117
VK5RX	22	159	VK3PL	38	117
VK2EO	2	152	VK3UM	13	116
VK3CN	1	151	VK7LJ	24	114
VK2GW	16	151	VK4DA	7	113
VK6RU	14	150	VK7LZ	17	113
VK6SA	20	150	VK4RC	18	107
VK4QL	26	146	VK6KW	40	104
VK5BO	23	144	VK2YC	34	103
VK3XO	43	144	VK3APA	14	101
VK2VW	4	143	VK3NC	19	101
VK2QL	5	143	VK2OA	32	101
VK4DO	20	141	VK7RK	22	100
VK3KB	10	138	VK2AEZ	25	100
VK3JE	31	137	VK9XK	41	100
VK5FH	31	134	VK3RJ	42	100
VK3XK	30	128			

OPEN

Call	No.	Ctr	Call	No.	Ctr
VK3BZ	4	224	VK7LZ	33	118
VK4HR	7	210	VK3VQ	48	116
VK4FJ	32	200	VK2ASW	53	116
VK3JE	13	196	VK3JA	43	114
VK6RU	8	196	VK2ADT	14	113
VK2NS	18	195	VK3HO	38	111
VK3HG	3	181	VK3PG	47	111
VK4EL	10	172	VK3MM	48	111
VK6KW	13	171	VK4RC	21	110
VK2DI	3	170	VK3ZB	34	110
VK3KX	1	167	VK2ZC	25	108
VK4KS	24	167	VK3KR	50	107
VK4DO	15	165	VK2YL	11	106
VK2AWW	45	150	VK2AWN	36	105
VK6GW	48	148	VK2VN	18	104
VK3LN	28	144	VK4UL	27	104
VK5FL	28	143	VK6PJ	44	104
VK4WF	40	141	VK6PW	50	104
VK2MC	5	139	VK2HZ	17	103
VK3OP	19	137	VK7KB	30	103
VK6DX	42	137	VK2TI	37	103
VK4RW	33	137	VK3YS	57	103
VK6DD	22	136	VK7RK	31	102
VK3HT	41	135	VK4TY	38	102
VK2ADE	38	133	VK9XK	54	102
VK2AHA	8	128	VK5HI	51	101
VK2AHM	20	125	VK2ACX	8	100
VK3JI	33	118	VK3TG	39	100
VK4LC	35	118			

VK3D does his best to satisfy a long queue of DX-hungry c.w. boys on 7 and 14 Mc. The operator is Ray Baty, of Melbourne. VK3GT is reported to have also gone to Fanning Island. It is understood that Ray will stay on the island for approximately two years. QSLs can be sent to Fanning Island as there is a mail delivery every three months (thanks 3OM and 3PV). Activity from South Korea (HL) has been reported (thanks 1AC and s.w.l. Norman Clarke). Activity is planned from Navassa Island (American Poss., near Cuba) (thanks 3CX). Further details will be published as they become available. Chas 1AC operates on all h.f. bands except 21 Mc., and hopes to be also on that band before long. Alan 5YY advises us that he expects cards from JZ0KF to arrive shortly. ZL1AGR is ex-ZM8AF (thanks BERS 195). KG6GX is a U.S. Navy club station on Guam. W3NLS is ex-MI3LK.

QTHs of interest:

VR3D—Ray Baty, O.T.C. Cable Station, Fanning Island.

ZC5VM—Sgt. Mills, R.A.F. Detachment, Labuan, British North Borneo.

ZC5SF—George Harrison, Harbour Master, Sandakan, British North Borneo.

I8LV—Box 505, Mogadiscio, Italian Somali Land.

YI2AM—R.A.F. Club Station, R.A.F. Habbaniya, M.E.A.F. 19, Iraq.

Ex-KP8AE—KZ5OM, William J. Christian, C/o. P.A.N.R.F.P.S., Drawer 3006, Fort Gulick, Canal Zone.

W7IIS/KP6—Lawrence Benjamin, 2204 N.E. 7th Ave., Portland, Oregon, U.S.A.

Rare QSLs were received by 2AHH 4X4BT, OA6F, LU1CV, YI2AM, ZE6JA 2APL, YO3RF; 3ATN, MIB ST2NW, CS3AC ZC4RX, VQ2FU, ZE6JA, EI5Z, LU5AR, 5HI AP2R, FA3VV, CN8CS, ZB1AQ, DU7SV, 5WO Z83T, KV4AA, KV4BB VK1EM, VS2DQ, 7DZ LX1SI, 9YY; VQ2AB, ET2NG, FI8AE, JZ0KF, BERS195; F5TQ, OK1KTW (both for 3.5 Mc. reports); 5ABH, XW8AA, VP9BG, TI2PZ, ZK1AB, FK8AC, and DU7SV.

The monthly "thank you" is this time directed to VKs 1AC, 2QL, 2AFE, 2AHH, 2ALJ, 2AMB, 2APL, 3CX, 3IM, 3KB, 3KR, 3PA, 3TE, 3UR, 3XO, 3AKO, 3ANJ, 3ANQ, 3ARV, 3ATN, 4RW, 4XJ, 5DP, 5HI, 5RK, 5WO, 6GU, 7DZ, 7LZ, 7RX, 9YY, and to s.w.l's. BERS196 (VK3), Norman Clarke (VK2), Dick Jenkin (VK3) and Dave Jenkin (VK3).

Please remember: Increased activity at night time between 7000 and 7150 Kc. reduces chances of further expansion of commercial QRM!. Let's occupy our band!

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK2VW	9	3
VK4RY	3	3
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3PG	5	1
VK3RR	6	1
VK3HT	7	1
VK3AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	15	1
VK3HO	17	1
VK3ABC	8	
VK3WH	15	

FIFTY MEGACYCLES AND ABOVE

VICTORIA

Good conditions were experienced on 6 mx between the Melbourne area and VK7 on the 15th January. Skip distance rarely decreases sufficiently to enable contact to be made with Tasmania, particularly so for northern Tasmania. 7AJ and 7LZ, of Hobart and Launceston respectively, both came through with excellent signals. 7LZ faded out first as the skip lengthened. However, they remained in long enough for several QSOs to be made. On the same evening VK5s were also getting through. First sign of Tasmanian 6 mx sigs in Melbourne was the occasion when 7CW and 7NC broke through for a brief period in 1947 while they were in contact with VK2. Occasional openings have occurred since then, several contacts having been made.

3VL and 3US, Rex and Gwen of Leongatha, are still active on 6 mx down there. Look for them on Sunday evenings. They also mention that 3TH is active again on 6 mx. 3KX, a visitor to Melbourne recently, hopes to have his 2 mx station in operation at Colac soon with higher power and new beam.

A general discussion took place at the January v.h.f. meeting, arrangements being finalised for the fox hunt, a 288 Mc. display night at the February v.h.f. meeting, and field days. Listen to 3WI for details. The March v.h.f. meeting will be on Wednesday, 17th, commencing as usual at 8 p.m. and held at the Institute rooms. All are welcome to attend.

In making a plea for more activity on the v.h.f. bands the following points are worth consideration:—

1. These bands are relatively static free and much less subject to most types of electrical interference.

2. Free from varying propagation conditions which often impair the effectiveness of the lower frequencies for ranges of 100 miles or less.

3. Due to shorter physical wavelength experimentation with a great variety of antenna types of practical size is possible. Rotary beams of high gain are easier to construct and erect.

4. Offers scope for portable and mobile tests, and, incidentally, no special permit is required for this type of operation on 50 Mc. and above.

5. Provides activity which is as yet unexplored by many of us. There is the fascination of striving to extend the present maximum distances already achieved.

Referring to (4), comparatively simple gear may be used. An input of 2 to 10 watts to the final of the tx, together with a super regen rx of the non-radiating type will give very good results. A suitable ex-disposals genemotor or vibrator pack will provide the necessary h.t. supply. A number of articles dealing with compact portable and mobile equipment have appeared in the various Amateur magazines. See "QST" for April, 1952, and June, 1951, for typical examples.—3ABA.

SOUTH AUSTRALIA

Well chaps, it looks as though we will have to build up a 70 Mc. rx to monitor the v.h.f. bands for twice in a month the Eastern States' taxi services have made VK5 with very strong signals. There is every possibility then of them being on 24 hours of the day, so what more could we ask!

Six metre band has shown most activity but why, oh why, does every station almost fold up as soon as the contest is over—it makes me more in favour of a longer period with some modified scoring scheme to take care of the extension. And whilst I am on contests, Council discussed our own v.h.f. contest and decided to refer it back to the general meeting for discussion—the proverbial "hot-potato" what! So it's your move next my hearties.

Noticed in "QST," December, a handy gadget called a "V.h.f. Balun—pocket size" for matching co-ax to the balanced line. In usual "QST" style, the four coils—two bifilar wound pairs—have no details except that they are "a pair of standard t.v. balun coils" and they lend themselves to cover the 50 and 144 Mc bands—possibly the 288 Mc. band I suppose. However, with a magnifying glass, I counted 32 turns close wound on about ⅝" diameter, which could mean 16 turns double wound, about 1½" long. Each coil pair is wound in opposition to its neighbour. The two outer coils connect to the terminals at one end and to the inner and outer co-ax connector (earthed). The other coils interwound are connected together at the terminal end and at the co-ax end to opposite connections from that which their interwound coils are made.

A new arrival on the 6 mx band is Bert 5BW who has acquired Max 5GF's gear; welcome to the ranks OM and you know by now that during the DX season and the V.h.f. Contest the locals don't answer nohow. Ray 5BT has been taming a 6M5 on 6 mx and fell into the trap that we have all kicked ourselves out of—measuring plate and screen current and wondering why the dip was poor—an 833A to anyone who hasn't done it! Keith 5MT is without a 6 mx rx as at writing so working cross band with 2 mx; land you my 6 mx one for your 2 mx one Keith, then I can work 2 mx—how long is it Clem, 3 or 4 years!! Talking about Clem, Ray followed your progress through the city and the echoes indicated that you were dodging in and out of the tram poles. Good strength from the 6J6 final—half watt input did I hear you say! Well, I'll take heart again. Where was Reg 5RR at the time?

On 1 mx a few stalwarts Rex 5KY and Howard 5XA with Charlie 5ON are continuing the good work; Eric 5EG livening up the band too, maybe we'll get a contact soon Warwick.

Important news on 2 mx, Tom 5TL calling and listening four nights of the week at 1930 hours for any contacts, particularly from the city. Am afraid that you'll have to bounce the signal off Mt. Lofty Tom. Hughie 5BC using a 16 element beam now, so should be able to push that signal report up to S9 plus 40 db. Have some good literature in circulation with the tape recording that I made of my lecture on antenna couplers. Country Hams who cannot use the tape recorder may like to have a look at the synopsis and publications. Thanks for the prompt response to the questionaire chaps.—5XU.

FEDERAL, QSL, and DIVISIONAL NOTES

FEDERAL

Fed. President G. Glover, VK3AG.

Fed. Secretary: G. M. Hull, VK3ZS, Box 3511W, G.P.O., Melbourne.

QSL Bureau: R. E. Jones, VK3RJ, 23 Landale Street, Box Hill, E.11, Vic.

DX C.C. Manager G. I. Morris, 50 Eighth Street, Parkdale, Vic.

NEW SOUTH WALES

President: Jim Corbin, VK2YC.

Secretary: Dud Millen, VK2LQ, Box 1734 G.P.O., Sydney.

Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: Harry Powell, VK2AYP, 9 Russell Avenue, Wahroonga.

QSL Bureau: J. B. Corbin, VK2YC, 78 Maloney St., Eastlake, Sydney (Inwards and Outwards).

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VICTORIA

President: G. Dennis, VK3TF.

Secretary: C. Gibson, VK3FO.

Administrative Secretary. Mrs. G. Pickering, Law Court Chambers, 191 Queen St., Melb'ne.

Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.

Divisional Sub-Editor: K. E. Pincott, VK3AFJ, 14 Dunscombe Ave., Ashburton, S.E.11.

QSL Bureau: Inwards—Graham Roper, VK3ZB, 26 Lucas St., South Caulfield, Vic. Outwards Frank O'Dwyer, VK3OF, 190 Thomas St., Hampton, S.7, Vic

Zone Correspondents: Western T. B. Rodda, VK3ATR, Box 254, Warracknabeal, **South Western** W Wines, 11 Redford St., Warrnambool, and E. Giddings, VK3ANQ, 2 Nelson St., Warrnambool, **North Eastern.** A. D. Buchanan, VK3FD, 'Booroondal," Wahring, **Far North Western:** M. Foltc, VK3GZ, 101 Lemon Ave., Mildura; **Eastern.** Leo Dwyer, VK3SG, and John Battrick, **North Western:** C. Case, VK3ACE, Cumming Ave., Birchip.

QUEENSLAND

President J. A. Weddell, VK4FT.

Secretary: V. P. Green, VK4VS, Box 638J, G.P.O., Brisbane.

Meeting Night: First Friday in each month at the Royal Geographical Society Rooms, Ann Street, City

Divisional Sub-Editor: J. T. Hope, VK4XL, Royal Parade, St. John's Wood, Ashgrove.

QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda, South Brisbane (Inwards and Outwards).

SOUTH AUSTRALIA

President: W. W. Parsons, VK5PS.

Secretary: R. G. Harris, VK5RR, Box 1234K, G.P.O., Adelaide. Telephone J 1151.

Meeting Night: Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor: W. W. Parsons, VK5PS, 10 Victoria Avenue, Rose Park.

QSL Bureau: Geo Luxton, VK5RX, 8 Brook St., West Mitcham, South Aus. (Inwards and Outwards).

WESTERN AUSTRALIA

President: G. A. Moss, VK6GM.

Secretary: J. Mead, VK6LJ, Box N1002, G.P.O. Perth.

Meeting Place: Perth Technical College Annexe, Mounts Bay Road, Perth.

Meeting Night: Third Tuesday of the month.

Divisional Sub-Editor: W. E. Coxon, VK6AG.

QSL Bureau: Jim Rumble, VK6RU, Box F319, Perth, West. Aus. (Inwards and Outwards).

TASMANIA

President: L. E. Edwards, VK7LE.

Secretary: F. J. Evans, VK7FJ, Box 371B, G.P.O., Hobart.

Meeting Night: First Wednesday of each month at the W.I.A. Club Room, 147 Liverpool Street, Hobart.

Divisional Sub-Editor: L. E. Edwards, VK7LE.

QSL Bureaux Inwards—T Allen, VK7AL, 6 Thirza St., New Town. Outwards—Ray Calvert, VK7RT, 310 Park St., New Town, Tas.

Zone Correspondents: Northern: M. A. Chaplin, VK7CA, 56 Merallyn Rd., Launceston; **North Western:** R. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

FEDERAL

AUSTRALIAN RADIO AMATEUR CALL BOOK

The interest has been so great regarding the forthcoming Australian Radio Amateur Call Book that its success is almost assured as at the date of this issue of the magazine, if one could use such information as a basis for computing the success or otherwise of a publication.

In response to a request for corrected names and addresses in these columns last month, a flood of letters has been received pointing out current errors and advising of prospective changes before the publication date some time in March (you still won't get a copy until April—the machines merely commence running in March.). All this points to one thing—accuracy; and that is what is wanted in this, the Institute's first subsidiary publication to "Amateur Radio."

But one word of warning to those who have forwarded these corrections and additions in to Federal Executive! **They must also be forwarded to the Postmaster-General's Department under the terms of the Amateur Licence.** It does not suffice to only forward such information to the Institute as publisher's of the Call Book, the information must also be forwarded to the Department for the official files. So to those who have forwarded in amendments, etc., and to those who may do so in the near future, please note this requirement of the Regulations.

The Call Book will sell through leading booksellers and all Divisions of the Institute at 4/6 per copy—a little higher than was first expected but nevertheless still reasonably priced as things go in this age in which we live. The main thing is to maintain a facility to which every Amateur has a right.

A WELL MERITED AWARD

The Victorian Division has seen fit to award —or should we say, confer—Life Honorary Membership on our Federal QSL Manager, Ray Jones, VK3RJ.

We particularly mention Ray in these columns because he has carried out the arduous duties of handling QSL cards for more than twenty years, during which time he has handled thousands upon thousands of QSL cards for all Amateurs in Australia and for many societies overseas and members of those societies. This is no mean task as anyone who has done such work in the Institute's Divisions will know only too well.

Before the Federal organisation came into being, Ray carried out the same job in the Victorian Division, and in receiving this honor has become the second Federal officer to be listed under honorary membership. Ray has well and truly earned it and our best wishes and congratulations are extended to him for a good job done. May he continue to serve the Institute for another twenty years.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

FK8 Hams staged a "do" at the Hotel du Pacifique, Noumea, in early January to welcome Keith Mealing, VK3NJ, who visited New Caledonia on a vacation. According to information the table was well "loaded" with beer, whisky and sandwiches, but no news is given as to whether any or all of the 11 FK8 Hams who attended or the guest were also "well loaded," but the stage seemed set for such an eventuality. However, the gesture gave Keith much pleasure.

Adrien, FK8AB, has commissioned **FK8AO** to procure him a supply of cards and the matter is well in hand. To save time owing to the poor mail facilities with Wallis Island, Adrien will supply FK8AO with details of the contacts and the latter will fill out and mail Adrian's cards from Noumea.

Alan White, G3HCU, in sending the season's greetings to this Bureau and to all VK Hams, mentions that he always is on 21 Mc. on Wednesdays and Sundays from 0700 G.M.T. onwards, looking for DX QSOs especially with VK.

The most unique confirmation yet sighted by yours truly is one sent to VK5KO by G2AVP confirming QSOs on four bands on the same day. The date was 31st January, 1948, and the bands 28, 14, 3.5 and 7 Mc. G2AVP, who used 120 watts to a 417 ft. long wire antenna, is a much travelled Ham and has signed the following call signs: VS9AP in Aden, VQ4CM, 5U4CM, HZ1VP, and VS9AP in Oman.

The Phone Section of the forthcoming 20th A.R.R.L. International DX Competition is set down for the week-ends of February 12-14 and March 12-14, while the C.w. Section occupies the week-ends of February 26-28 and March 26-28. Full details of times and method of compiling logs may be had from this Bureau.

As the writer is holidaying during the last week in January and first two weeks of February, notes are few and being compiled early. Correspondence will suffer some delay during the abovementioned period, but even a QSL Manager must have a breather now and again. Itinerary is a little vague at the moment and will depend on the weather and the purse (mainly the latter).

To show that he bears me no animosity, my "floral" friend in charge of the VK5 notes sent me a nice Xmas Card. His card design was aptly chosen and clearly defined and the written greeting was a pleasure to read and a greater pleasure to reciprocate.

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NEW SOUTH WALES

HUNTER BRANCH

The January meeting of the Hunter Branch was held at Tighes Hill Technical College with Johnny Clarke, 2DZ, in the chair and 15 members present. Varley 2SF agreed to carry on as Secretary until the annual election of officers, but due to pressure of business would not stand for re-election. Max 2OT resigned from his position as Class Manager so the Branch is looking for another Class Manager to replace Max and carry on his good work.

The lecturer at the meeting was Lionel Swain, 2CS, whose subject was "Reminiscences of the Newcastle Radio Club"—an amusing and educational lecture especially to the younger members of the Branch.

We have lost another two members from the Hunter Branch. Jack 2ADT has moved to Inverell and Max 2OT has been transferred to Sydney, but his QTH will still be in Newcastle until he can arrange accommodation in the "big smoke."

Leo 2QB got up as far as Rockhampton in his trip to VK4 and called in to see Web 2AQI at Armidale on his way through. Ron 2A5J has been holidaying at Denman, and latest reports are that Ron's health is much improved and his voice is well on the mend. Harry 2AFA and Neil 2XY have both installed "flop over" beams for use on 14 Mc. and report good results with them. Frank 2AUH has shifted to new QTH at Lambton and will be on the air within a short while.

The March meeting will be held at Tighes Hill Technical College at 8 p.m. on 12/3/54.

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VICTORIA

The February meeting of this Division was held on 3/2/54 at the Melbourne Technical College, when Messrs. Burton and Williams, of the M.T.C. staff, spoke on Receiver Fault Finding. Not only did these gentlemen speak on the subject, but also brought along a collection of gear and gave practical demonstrations. The 85 or more members present greatly appreciated the effort made by the speakers, and after firing many questions at them carried a hearty vote of thanks.

Now that we have the use of the Radio Theatre until a later hour, time is available to conduct a fair amount of business, and many items were finalised on this occasion, a summary of which follows:

New Members Full, 3AVK, whose name I missed. Associates: R. Neil, D. Goldsworthy, D. G. Dow, Peter Davies, and Frank Clarke. Welcome one and all. There's plenty of seats at the meetings, so let us see you there.

Federal Councillor: Fred Bail, 3YS, was re-elected to this position.

New Call Book This matter is well in hand and members were asked to notify the office immediately if there has been any change in their addresses, or if there is any mistake in the last official list published.

Library: Ron 3ARV volunteered for the job of Librarian and asks those wanting books to contact him at 18 Madden Grove, Burnley. Ron will probably be rushed for volumes I. and II. of Conversions to Surplus Equipment which have just been acquired. These books cover a host of American equipment types and should be well worth perusing.

High Power Permit After due consideration Council has decided that for the time being they are unable to increase the power at 3WI. The permit available authorises an increase to 500 watts for the Sunday morning broadcast only. Without entering into the pro's and con's of the matter, I suggest leaving the power "as is," but for Pete's sake put some audio on the carrier.

TRANSMITTER HUNT, 14th MARCH

After discussion at the February general meeting, it was decided to change the date of the Marathon Tx Hunt to 14th March. This change has been made because of the Royal Visit.

For full details see February issue of "A.R." on page 17. Briefly, the scoring: three points deducted for each minute a competitor arrives in the area under the time decided upon, and one point off for each minute over the time.

Assembly point at College Parade, rear of the University at 10 a.m. and first signal on at 10.30 a.m. Total mileage including the return to Melbourne, approximately 90 miles. Please wear your badge and clip your name or QSL card onto your car windscreen.

See you at the Hunt!

Somewhere about this stage of the meeting, the President requested that two members present leave the room, or be forcibly evicted. Wisely they chose the easier course. These two members have, over a number of years been guilty of certain misdeeds and the time had arrived for them to be judged by their fellow members. Note that they were not permitted to speak in their own defence. The charges were first against Ray Jones, 3RJ, "that over a period of many years he had delayed delivery of QSL cards in favour of brass pounding," and secondly against Ron Higginbotham, 3RN, "that he had delayed the printing of 'A.R.' in favour of building bigger and better rigs."

After various members present had elaborated on their misdeeds the meeting unanimously agreed that suitable punishment would be to thrust Hon. Life Membership upon them.

In a short speech, Ray stated that in the time he has been Federal QSL Manager he has handled over 800,000 cards which is over 6,000 hours work. Unfortunately Ron has lost count of the number of words he has had to check and read at least twice, how many people he has had to chase for copy, how much almost illegible handwriting he has had to decipher and so forth. Sufficient to say, both chaps have more than done their fair share of the work involved in running our Institute.

After all that I'll have to keep personal notes to a minimum or the big blue pencil will come into operation, but even so, a couple of points must be raised. For understatement, I'll nominate 3RE's remark that he likes working DX. Anybody who builds a house around the shack is more than keen. Just as well the XYL feels the same.

For overstatement, I'll back 3ZS calling himself "Grandpa." That title is suitable only to old blokes like me Max, and when you reach more mature years—say 20 years' time, or thereabouts—I'll be happy to congratulate you on the occasion. If you don't believe me, ask young Bill, 3TX, who now has a shiny 50 ft. pole rearing its ugly head above his back garden. Bill doesn't feel a day older now than he did when he "acquired" the coil from a "T" model Ford and radiated a signal somewhere between 200 and 600 metres!!

Lastly! Whattabout a 40 Metre Scramble???

NORTH EASTERN ZONE

We took notice of the photographs in a well known metropolitan daily recently that included Ken 3KR earnestly talking to the microphone of VL3QB. V.h.f. seems to be catching on up here, at the time of writing including our "regulars" Alan 3UI, Syd 3CI, Peter 3APF, Les 3ALE, Alex 3AT, and Murray 3HZ, Doug 3IJ, Jim 3JK, Des 3CO and Stan 3AGT are also following, or thinking of following, that type of work, and some have graduated or are graduating as far as 2 mx.

Des 3BP has been heard in spite of very low power input, but Howard 3YV and Gordon 3XU have not been obvious lately. Johnny 3ACK was mentioned in the last call sign amendments. Jack 3PF is another who is handicapped at times by low power. Those uncapped "807s" must have sustained Hugh 3AHF through our recent very hot weather. Rex 3UR is troubled, on occasions, with a high noise level; some might suggest he should be initiated to the mysteries and privileges of 6 mx. Col 3WQ is one who currently has a good position for local 80 mx daylight working.

Frank 3ZU has been heard on 20 mx, but it would seem that Vic 3ABX is apparently busy and more or less off the air. Keith 3JC and Henry 3HP were among those mentioned as receiving cards from Bob Gurr, VK1RG, on his recent return from Macquarie Island. Our associate Vern Wyatt did not sit for his A.O.C.P. in January, but hopes to be "in it" in April with at least one of his mates from Cobram.

CENTRAL WESTERN ZONE

The last two months have meant hard toil and little available time for Ham activity for the majority of our zone members, but now that the harvest has been reaped and holidays had by all, we are beginning to hear familiar old voices around 80 mx again.

Firstly a dash of v.h.f. news. Keith 3AKP, of Stawell, is now all geared up on 2 mx with beam aligned down 3DP's neck of the woods, so Jim get cracking on your 2 mx converter and that 522 before Keith starts plugging in 80 mx coils. Charlie, formerly 3IB and now operating as VK1AC on Macquarie Island, has settled down amongst the icicles and putting some f.b. c.w. sigs into here on 20 mx. So chaps, have a listen of an evening and give him all the news. Bill 3AKW has his new rig working well on 20 mx and by now should have nabbed Charlie.

Well due to poor weekly hook-up attendances, I find news is very scarce, so what say Bob, Trev, Jim, Dick, Byron and all you other Central Westerners, let's make next Wednesday night at 8.30 on 80 mx an all time record.

[redacted]

The Zone Vice-President, that old stalwart from down Yarram way, Alf MacKrell, has become engaged; congratulations Alf. Alf is also anxiously awaiting results of the A.O.C.P. exam, so I think we will be congratulating him on another score soon. One of Alf's friends from Yarram, John Batterick, has also become engaged; best of luck also John. I heard a rumour that Peter 3IZ, who used to be at Yarram, became engaged recently too. These Yarram boys are certainly dark horses!!

Stan Baxter, of Traralgon, is now the owner of an A.O.C.P.; good on you Stan, we always said you could do it. It is high time that another lad around these parts went for his ticket, namely Laurie Daniels. What about it Laurie?

The zone hook-ups have been rather small lately, but as conditions improve from now on, so also will the hook-ups, we hope. 3BQ appeared early in February for the first time for quite a while to test a new mobile rig for the National Field Day. Leo has built a mobile rig that works off either v.f.o. or crystal and is bandswitched from 10 through to 80 mx. 3QZ, 3PR and 3WE have been the mainstays of the hook-ups over the past couple of months and have done a great job keeping the hook-ups going. 3AHK dropped his 3850 Kc rock and broke it, of course! This coupled with the fact that Howard 3VG has taken his v.f.o. to VK9 with him has kept Ossie off the hook-ups. Yes Howard has got his shift to VK9 at last.

The Sale boys are still very quiet, however Arthur 3ABF came up on New Year's Day with a mighty 100w signal. Bairnsdale is very quiet these days, Jack 3FK hasn't been heard for some time and Alan 3AFA hasn't put a signal on the air yet. The Leongatha chaps, apart from 3PR, are also very quiet, likewise the boys down Warragul way.

The monthly meeting of the local sub-branch was held at the home of Lindsay 3IO and a most enjoyable time was had by all. Membership of the sub-branch has dwindled somewhat over the last year, mainly due to members leaving the district. If the meetings get much smaller, they will be starting to look like a State Convention. Main discussion at the meeting was on preparation for the National Field Day. An inspection of Lindsay's gear proved to be very interesting and he is to be congratulated on the neatness of his set-up. The next meeting will be held at Jack 3FK's place in Bairnsdale and is being eagerly looked forward to by all.

GEELONG AMATEUR RADIO CLUB

The major item of interest for the month was a field night on the 13th when a tx was hidden by 3AWZ and J. Beckingham in the vicinity of Batesford. A Type 3 tx was used and a satisfactory signal was heard at the starting point. First to arrive were Vic Clarke and 3AEH, with 3ALP only three minutes behind, followed by 3IC and J. Barbour. Several others arrived later; one car, the navigator of which it is not desired to disclose, had a most pleasant trip (?) to Barwon Heads. It [redacted] article on sensing would be of interest.

Three members, who did not take part on this occasion, were 3WT, 3BU and 3AKE who were all on the sick list at the time. W. Brownhill and Ed. Kosseck are on the job again at present and we are pleased to report that the progress of Bill 3WT, although slower, is still in the right direction.

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QUEENSLAND

January has been very quite all round in this Division, the activity on the air and in our organisation seems to be at its lowest ebb. Our Secretary informs me that the response to the nominations for Councillors has been very poor, plus the fact some of the present Councillors are retiring after, on their part, lengthy service as Councillors. I and fellow Councillors hope you, as a member of our Institute, won't let the business of the Council be curtailed by lack of members. We don't want to be in the sorry plight we are in with our official station, 4WI, begging for a home. It is requested you take over some duty on the Council; after all it's your organisation to protect your interests in the greatest International hobby in the world. Individualism and petty differences won't protect us from the inroads of commercialism in our bands which we have striven so hard to maintain. So what about a review of yourself and your activity and see what you can

do to assist, and put that something that is lacking in this Division, back into it.

January showed what can be done by one member, when I look at the activity of Frank 9FN while he was on leave in this Division. Especially after some of the tales, completely unfounded, that Frank was greeted with on his trip around some of the country members' shacks. Seems as if there are some unscrupulous saboteurs in our midst. I offer this warning to all members. If any Amateur or otherwise makes a derogatory statement about members or Councillors of this Division, ask him to produce proof or where he obtained his information, to pass on to Council. If nothing is forthcoming in this way, tell him to, in polite Australian, shut his trap, as defamatory statements can lead one through the perils of a court case. And please don't pass on these old maids' mutterings you hear unless the truth of them can be substantiated by cold facts.

January meeting was as usual poorly supported, though it was pleasing to see those of you who were there, which included Jack 4SF from Ipswich, Harold 4HM, Keith 4KF, Jim 4PR (about again after his accident) and Frank 9FN who presented the highlight of the evening with coloured films of the highlights of Port Moresby and their coronation celebrations, plus those flashes of the family at play that creep into family photography, and if the films did lack anything, Frank made up for it in his running commentary, even on the leader of the native Girl Guides!!

Must welcome some newcomers to this Division in VKs 4WT, 4FU, 4TF and associate members D. Carter and C. King.

Heard Bill 4YA on air again after holidaying in Victoria and Hal 4HG after re-building the rig. Believe the beam is still on the ground though, can't you get a few helpers from the Ipswich gang Hal? Jack 4SF is wearing himself thin climbing up and down his tower doing all those little adjustments to his beam and working a little DX in between. Aussie 4TN and John 4RT have been heard "rassling" with European DX, and Clive 4CC back with a.m. after giving other types the once around. Keith 4KS getting his portable going for a trip down South. Frank 4ZM hopping between c.w. and phone, having a high old time. John 4FU heard putting a mighty signal in here calling WX. Haven't heard Gympie though I have searched for signs of 4HZ without any luck. Joe 4JH, of Townsville, came through for a pleasant QSO and told me he had been entertaining Bill 4WD, from Rocky, who was up that way on holidays.

John 4FT having a holiday from radio and swotting hard for his accountancy exams. Arthur 4FE works the chap next door on v.h.f., with a 5 over 5—be cheaper to shout through the window Arthur! 4RJ, 4ZB and 4UJ have been punching holes in the ether on c.w. and Tom 4TT trying yet another antenna, which goes to show some Amateurs are active on the air at least.

Don't forget April for our Queensland VK4 Contest. April for the Annual General Meeting and Annual Dinner, see you there.

March for your dues, March for your Council nominations.

All outstanding contest certificates for Queensland contests should be out in March. The winners of prizes donated by Brisbane firms will be presented with them at the Annal Dinner if they are present. The date is 3rd April—remember it.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the club rooms to the usual capacity attendance and the guest speaker for the evening was Mr. G. Bowen (5XU) whose subject was "Antenna Couplers." Gordon has lectured many times before to members and has established for himself quite a reputation on the subject of antennae and associated apparatus. It is suffice to say that he was as usual his instructive and interesting self and managed to pass on to his listeners much of his knowledge, and also to remove from their minds several misconceptions concerning standing wave ratio, impedance mismatch, and the other mysteries connected with aerials. Most of what he said we have at various times read in our text books, but undoubtedly an hour of personal explanation accompanied by a few circuits on the blackboard teaches more than days of book reading.

Gordon brought along several types of v.h.f. aerials and discussed their advantages and disadvantages, and I must say that when he produced his version of the slot antenna for 288 Mc. working, the audience really sat up and took notice. Gordon concluded his talk with a few selected pictures projected on a screen together with suitable explanations, and the vote of thanks proposed in able manner by Hector 5UZ suitably expressed the opinions of all present as to the success of the lecture for the evening. This lecture will be available on tape shortly and I can recommend it to all country members.

No general business of any importance was discussed and it can only be assumed from this that the VK5 Division is sailing along in very placid waters. The President, however, did address the meeting on several matters, one being the fact that nominations for the 1954 Council were now due and he stressed the point that some new and young blood would be all to the better in the Council, and stated that any member of the present Council would not be hurt to any extent if he was dropped off the said Council. The "here heres" and other sundry remarks which came from various Council members more than supported the remarks of the President.

The President when interviewed after the meeting did not appear very confident as to the possibility of there being any new members for 1954! He also referred to the fact that the annual subscriptions were again due and said that he hoped any member would not withdraw from the activities of the VK5 Division because of possibly being short of the necessary. He pointed out that the VK5 Division had always made provision for any member who might find himself temporarily financially embarrased due to family sickness, hospital expenses, or any of the many unexpected problems associated with the family man. The Secretary or the Treasurer, or for that fact any member of the Council, will be only too pleased to explain just why you don't have to drop out of the Division, and don't forget they are the soul of discretion. Anyway, the President is usually broke to the wide and the Council members have had plenty of practice dealing with him. Seriously fellows, don't drop out because of any false pride on this matter, the Division is too big for anything like that.

The meeting closed at the witching hour of 10.30 p.m., but the lights never went out until a much later hour, which leads me to think that a good time must have been had by all.

Was talking to Bill 5VK who was telling me at the meeting that he was moving from his present QTH at the "Snuggery," down to the city and would be heard from the Seaton Park area in the near future. He originally hailed from Guernsey with the call sign of GC2BHJ and lived in the town of St. Sampsons. We welcome him to the city and will be pleased to see him at the general meetings more frequently.

Received a letter and parcel from Les 5UX all the way from Cook. The letter was true to form, but the parcel was eyed very suspiciously. It turned out to be a smashed boomerang under the label of "unmitigated balderdash." Les does not miss a chance to have a shot at me, or I at him, and this I will say, he is one of the few in this world who can dish it out and also take it in return. A stout fellow! (very subtle). He also called in to the b.b.s.s., after a trip to Perth, and we had quite a chat about Ham Radio. He thinks that he might be back nearer the city lights in the near future. Here's hoping Les, we could use you in the Divisional activities.

I have it on the best of authority that at the next buy and sell night, Ross 5LW intends to dispose of the remains of his automobobble. It appears that on the way to the famous Kelly fishing grounds, over the Xmas period, the said car became a little temperamental and decided to continue the journey on its head. Ross was quite put out about this (very funny, very funny), and when everybody sorted themselves out, it was found that the trailer and boat, together with the stock of provisions and all the usual gear associated with the art of fishing, were slightly knocked about. Ross finished up with the XYL's wig on his head and had a little trouble in finding his glass eye and cork leg, but apart from some bumps and bruises on the children and XYL, all was reported fair. Ross said, when interviewed by the representative of the magazine, who was quickly on the spot, that he was very lucky to be hit where he was, if it had been anywhere else he would have been badly hurt. The representative who examined his head, agreed with him!! Despite all this excitement, the party carried on with the true Kelly spirit, and great was the mortality among the fish over Xmas. I report this fact concerning the fish, only at second hand, as nary a fish did I see or taste.

Leo Rand, W2JAC, who is maritime mobile on the "Pioneer Glen," paid another of his five monthly visits to VK5 and was active on 28 Mc. from Port Adelaide during his stay. This fact gave an unexpected fillup to that band and quite a scamper took place among the fraternity who had almost forgotten just where their coils for their receivers really were. Doc 5MD, John 5HI and Les 5LC were among the lucky ones. Leo is active on this band at all times whilst in Australian waters and now that he has official permission to work the rig whilst in port, he should be heard more often. Last heard he was en-route to VK7.

SOUTH EAST AREAS

5CH has been doing a little on the v.h.f's, but as Claude is busy building himself a new shack, there is some excuse for the momentary inactivity. 5TW has been keeping his skeds on the v.h.f. frequencies, but aside from this, Tom has nothing to report. 5MS has been keeping his skeds on 40 mx and also chasing any new ones that may show up on 20 mx. Stuart is finding the new ones becoming further and further apart. 5JA has again gone into smoke and no news is available from John for this month. 5KU having lowered the beam for alterations, finds it very difficult to hear any signals let alone work any stations. Erg, of course, always has the glider hobby to fall back on, but the weather for this time of the year is not very co-operative. Is that right Erg? 5FD is another one who is missing from the scene of activities this month, and it is quite remarkable that the only two stations from this area, named John, always go out of circulation together. 5CJ is plodding along as usual, and apart from the usual skeds, Colin is having a quiet time. He tells me that the questionnaire from the VK5 Division that was sent out to all country members, caused a lot of interest in the S.E. areas, and it is hoped to hold a monthly get-together to hear the tape of the W.I.A. meeting.

WOOMERA RADIO CLUB

Most of the members of the club were away for the Xmas break, but Ray Farmer and Max Newell always seemed to be around whenever Ron 5FY happened to be there. The gang really enjoy the Sunday morning contacts with the boys in "civilisation" and are particularly pleased with the reports on the 30w. modulator. They managed to maintain communication with their President, Len 5OC, whilst he was in the city and were pleased to hear his XYL on the air at various times. Glad. has been in hospital for a while, but now sounds as if she is coming good rapidly. Ray Farmer's XYL has been confined to bed also and he has been busily engaged in looking after his two harmonica and hopes that it will not affect his coming A.O.C.P. exam.

The Sunday QSO with Les 5AX is still number one priority and he certainly puts in a solid signal up that way. Ted 5JE has now moved into a house in the area and will probably be heard pushing the key from 5WC ere long. I have heard Len 5OC from his QTH in the city lately, and seem to detect a slight touch of embarrassment in his voice when he alludes to the call sign of Woomera (5WC). Don't let it worry you Len, remember the famous words of one of my fraternity, "A rose with any other name would smell as sweet." What's that Len? Oh well, I was only trying to help. I see what you mean!!

The members of this esteemed club seem to think that they would like to hear the voice of the President of the VK5 Division occasionally via 5WI, and wonder if he speaks like he writes. They also wonder if he has a split personality, a sort of "Hackle and Syde," the scribe section battling with the President section. Well, strange as it may seem, this wish to hear the President talk on 40 mx has been expressed by quite a number recently, and if it can be managed with the minimum of expense and energy, the "voice" may be prevailed upon to do his stuff. However, his inherent modesty and shyness, coupled with his love of quietness and solitude, to say nothing of his purity of thought and action, may prevent this momentous event from taking place. Lower the blinds Jeeves, the light from that small star in the North East corner of the sky is blinding me!!

Believe it or not, but I cannot help thinking of the dear editor and the fatal step he is about to take. You know Tom, you won't know yourself, just think of coming home from work at the close of the day and finding your slippers put out, the dinner merrily cooking on the electronic stove, the sweet kiss of welcome, and after dinner, the relaxing in the shack. What do you mean? Not you of all people, dishes before DX! Well I give up, even the pedestal has fallen with you. Why, look at me, my wife does everything for me, why we even have a lace cover under the drip bucket in the sitting room, the sink in the kitchen always clean for me to wash in, and even rat traps set in the bedroom, but do I put dishes before DX? I'll say I do not. "Yes dear, I'm coming, I was just talking to my palsy-walsy Tom about being sure to help with the dishes when he gets married." "You sit down dear, I am sure you are tired, I'll wash and wipe." Wouldn't it!!

UPPER MURRAY AREA

The monthly meeting for January of the Upper Murray boys was held at the QTH of Hughie 5BC and quite a number of visitors came along headed by Eric Halliday, of D.C.A., himself a one-time active Ham. The principal item of the

night was the re-playing of the tape recording taken at the Adelaide meeting of the lecture on v.h.f. and the weather conditions. Hughie handled the recorder and Tom 5TL did the explanatory work from the notes accompanying the tape. Although the mathematic side of the lecture made fairly heavy going to the boys they all appeared to absorb the lecture, so much so that my correspondents' notes this month are mostly pertaining to the v.h.f's, and you know what will happen to me if I so much as dare to mention the v.h.f's. in this column. Therefore for any further doings of the gang please read the v.h.f. notes in this magazine compiled by Professor Bowen, M.U.G.

Tom 5TL tells me that he had a visitor this month, none other than ZL4JA, who is in VK on what could be called a walking holiday, with a companion. He has travelled as far as Cairns by "hitch hike" and other means of locomotion, and is carrying a list of all his VK contacts and their QTH. He has tried to meet up with as many of them as he could and called into Renmark on his way to VK3. Both he and his friend are science students at home and hope to take their degrees this year.

Associate member Wolfgang Wuttke was missing from the meeting but bobbed up at the Adelaide meeting, and as he is now residing in the big city will be a welcome member at all general meetings in future. Renmark's loss is our gain. Alex 5XO has closed down his shack preparatory to removing to Loxton. I may be wrong, but I think that he is the first and only representative of the W.I.A. to live in Loxton. Am I right Jack 5LR?

The next meeting for the boys will be held at the QTH of Fred 5MA and any visitors in the vicinity are more than welcome. It does not seem so, but Tom 5TL tells me that he has been sending down to me the monthly doings of the gang for a year now, and possibly there will be another volunteer for the job by the next month. If so Tom, thanks a million, and I will miss your cheery letters. You will get your reward in Heaven, that's what they tell me anyway. Thanks again Tom. Oh, by the way! They won't let you ride "Rattling Salvation" in Heaven!

I have it on the best of authority that in the Upper Murray areas there is a certain young man, who shall remain nameless, who is inclined to favour being an artist rather than being an active Ham. Anyway he spent quite a lot of time and care on the production of an oil painting representing a cow grazing in a field. He showed the finished product to one of his fellow Hams, who said, "The ship is not bad, but you have painted the sea much too green!" The painter will be heard on 40 mx much more frequently from now on!

By the way, fellows, book up for the tape that will be recorded at the February meeting on Radio Sonde. Gordon 5XU is personally taking the recorder out to Parafield and will get information right on the spot. There is some talk of the President accompanying him and making a personal trip up in one of the balloons, but the President declines to comment. In fact he was verbally silent!!

THE ANNUAL VK5 PICNIC

A very representative gathering of members and families of the VK5 Division came along to the Annual Picnic which was held at the Gorge Recreational Grounds on Australia Day. Due to the fact that I was busily engaged in keeping the wolf from the door, and incidentally, his growls have been getting louder and louder lately, I was not able to attend what apparently was the most successful outdoor gathering held for some time by the VK5 Division, but several members of my espionage department were there in full force, and I am able to chronicle the happenings of the day without resorting to the padding for which I have achieved Commonwealth reputation. All right, all right, I'll get on with it.

The weather was kind to those who came along, and all present managed to have a good time. Those who did not, and I should say they were definitely in the minority, only had themselves to blame and will drop out of this description forthwith. The prize list among the youngsters looks like a "who's who" of Amateur Radio in VK5, and so as they may see their names in print for once, I will give the prize list in detail:

Footrace winners were—6 years: Rob Coulter (5JD); 6-7 years: Rosemarie Bowen (5XU); 8-10 years: Wendy Bowman (5FM); 10-12 years: John Watson (5JW); ball in the bucket: Mrs. T. Davies (5TD); threading the needle: John 5JW; ladies' wheelbarrow race: Miss Joan McAllister (5JO); gents' ditto: Rex 5KY; men's race: Howard 5XA and Joe 5JO tied; and the ladies' race was won by Jean Baker. Prizes were donated by Mrs. Hewitt, Mrs. McAllister, Frank 5MZ and as usual, Gerard and Goodman.

The committee who were responsible for the success of the picnic are to be congratulated on their efforts and Frank 5MZ, Arch 5XK and Gordon 5XU are to be congratulated for the way they threw themselves into the task of entertaining the kiddies all the afternoon, both big and little. This Picnic was arranged with the main idea of getting the XYLs and the kiddies out into the open and giving them a good time, to show everybody that once the average Ham could be lured out into the open air he was as normal as any other family man, and finally to try and get the members' families to mix together and become better acquainted with the various people who, most of the time, were only a voice heard through the shack speaker. To say that the Picnic succeeded in these intentions would be to make a definite understatement. Nice work everybody.

One of the highlights of the Picnic was the "grudge" cricket match between the c.w. boys and the phone boys, referred in some quarters as the brass pounders versus the tonsil twisters. The scores are no indication of the entertainment provided by the players and finished up as B.P's. six wickets for 100 defeated the T.T's. all out for 85 runs.

It was evident as the two captains, Gordon 5XU (T.T's.) and Arch 5XK (B.P's.) entered the ring accompanied by the referee, that there would be bad blood between the two teams. As the referee was warning them not to hit in the clinches, etc., Arch slyly kicked Gordon in the shins and the crowd roared their appreciation of Gordon's impromptu dance of the upended drawing pins.

The teams ran on to the oval bouncing the ball to the accompaniment of cheers and jeers from the assembled mutitude. Expecting the c.w. boys to be exhausted after the B.E.R.U. Contest over the week-end, 5XU craftily batted first and sent his heavy battlers into the fray, to wit, 5JO, 5XX and 5LD. 5XK, as captain of the c.w. gang, with great sagacity, nursed his bowlers, to wit, 5FO, 5RR, 5JG with 5HW in reserve. So successful was this nursing that they all fell off to sleep without a murmur, although 5GL was assisted with a dummy. 5AW and 5LD had quite a battle in the cheering section with 5LD winning by a short neck, mainly because he used a couple of coarse words in the right place. 5ON missed the hat trick by 37 runs, one dropped catch, three wickets, and two non-l.b.w. appeals, whilst 5OC, 5DO, 5TD and 5DK collected ducks and had them for dinner the next day.

5MZ, when run out, threatened 5JO regarding a ?????? l.b.w. appeal, and 5RR complained that he had sustained a broken leg after getting out of his running lane and colliding with somebody's gig. 5MD started in the cricket match but finished in the tennis championships, much to the annoyance of the cricket players. Reg 5RR kept leaving the field, going behind a tree, pulling his pants up to his knees, and then sneaking into the ice cream queues and taking an ice cream under false pretences—and he the VK5 Secretary!!

As the sun sunk slowly in the West, and the tired but happy members wended their way homewards, the soft voice of Arch 5XK could be heard faintly wafted on the evening breeze, sweetly reminding the tonsil twisters that they had no answer to cricket or c.w., because it was an art! The groans and moans from the phone boys to this libel, must remain for ever a secret between the editor and I.

Everybody that I met after the picnic said to me "be sure to give Joe 5JO a mention in the notes for all the good work that he did for the picnic." I took the liberty of pointing out that if I mentioned Joe in the notes every time he did some good work for the VK5 Division, then he would never be out of the magazine, and he would run the risk of being called one of the clique. When I had a talk to him regarding the picnic, all I could get out of him was to be sure to mention all the names of the gang who worked so hard to make the picnic such a success. What hope have I got of getting any news, anyway I got so fed up that I decided to make no mention of Joe, nor will I tell you that he is always to the fore when the hard work is being dished out, nor will I tell you that he has been that way for so long that when anyone mentions the VK5 Division they automatically think of Joe. In fact I refuse even to mention his name.

A deep sense of gloom and impending disaster permeates the VK5 Division this month. Many members are wearing black bands on their sleeves and the sound of stifled sobs can be heard whenever the boys gather together, in fact the news of the impending doom which threatens the VK5 Division has become the sole topic of the day. The President, well aware of the feelings of the members toward him, is attempting to laugh without a catch in his voice, to greet the gang with that bareing of the teeth, which has passed for a smile for so long now that even new members no longer wince, in fact to do anything rather than let anybody see just how much the relinquishing of the Presidency was affecting him. However, there is a ray of sunshine for the despondent members. The President, with his usual unselfish motives has arranged with the incoming President to bring along his schoolmaster's cane when he assumes office, and has also offered to point out any of the members who might profit by its application. Vive-Barbier!! Six handers, I hope!

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WESTERN AUSTRALIA

The February notes usually show the effects of the slowing down which takes place during the Christmas holidays. There is one method by which several columns could be filled, and that is to relate something absolutely incorrect about many of the stations' activities and the result would be an overwhelming rush to point out the inaccuracies and thereby provide quite a lot of information.

With the opening of the schools some of our members return to duty and will come on the air again at their own QTH. 6RT and 6BO to whit. 6WZ from Geraldton paid a flying visit to Perth, but as it was over the week-end little was seen of him.

The following are the members of the Wireless Advisory Committee for the current year: J. Hoar, VK6OR; H. T. Mulder, VK6MK; D. E. Graham, VK6HK; J. Rumble, VK6RU; and F. C. Lambert, VK6FL. The chairman is Mr. T. J. Jewell.

6MR, mobile marine, has been heard working week-ends and holidays, mostly from the vicinity of Rottnest Island. VK6LJ, our worthy Secretary, seems to have completed all preparations for the Queen's visit, as far as communication channels are concerned, and has "returned to duty."

It seems that conditions this year make it essential that the W.A. News be put on 80 as well as 40 mx. It is so late in the year now that probably it will continue during the rest of the summer. Severe hetrodyne interference was in evidence a week or so ago on the 40 mx transmission from 6WI. Sabotage cannot be entirely ruled out.

Two new members were elected at the December meeting, namely Mr. W. W. Jacobs, VK6WJ, and Mr. E. J. Smith, VK6SJ. A country and a suburban licences respectively.

The January lecture was given by 6MK, his subject being "Modulation."

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TASMANIA

NORTH WESTERN ZONE

Sorry for the lack of notes the last couple of months, but owing to pressure of work and sickness, the correspondent has not had much of a chance. Believe 7KB has given up radio temporarily to experiment with high powered cars, though guess as soon as the bands come good he will be back at it again. Some very good experimental work has been done of late by 7SF and 7WA in connection with antenna design and matching which should prove very beneficial to radio in general. Ellis has built an 'antennascope which is capable of indicating whether the aerial is properly matched to the feed line and appears to be very useful in tuning a beam. Murray 7MR has moved his QTH some few miles. Guess you will be out of the noise area now Murray and the DX should just roll in. A recent event was the arrival of a junior op. to associate K. Hancock, and it was duly celebrated at our last monthly meeting. Congratulations Ken.

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